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THE CONSTRUCTION OF DEMOCRACY:

POLITICAL SOCIALIZATION THROUGH MILITARY ENGAGEMENT

by

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Dissertation submitted in partial fulfillment of
the requirements of the degree of Doctor of
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2003

ABSTRACT

(Political Science)

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The views expressed in this article are those of the author and do not reflect the official policy or position of the United States Air Force, Department of Defense, or the U.S. Government

ABSTRACT

The nature of the international system is shaped by social structures and social

interaction as well as material capabilities and power considerations. A state's power is

most often conceived of and measured in terms of the capacity of its military

organizations to coerce and impose on others. Yet these same military institutions form

an integral part of the political social structures of states. This study investigates to what

extent and under what conditions US military engagement activities are associated with

either liberalizing or authoritarian trends during the years 1972-2000 in three different

types of political entities: consolidated democratic states, consolidated authoritarian

states, and the middle ground of states.

The study covers over 160 countries to include the former republics of the Soviet

Union and states of the Persian Gulf region. Multivariate analysis using Cox proportional

hazard regression modeling is the primary analytic tool. Kaplan-Meier estimation is used

for initial bivariate assessment. The study incorporates five observable measures of US

military engagement: (1) participant in US military education and training programs, (2)

security ally of the United States, (3) US military presence in a country, (4) recipient of

US military assistance, and (5) recipient of US military sales deliveries. The analysis

also incorporates a country specific measure of Soviet influence that is used to gauge the

hegemonic socialization influence exerted by the Soviet Union.

The results show US military engagement activities to be significantly and positively associated with liberalizing trends in all regime types, with the most pronounced effect for consolidated authoritarian states. US military-to-military contacts increased the probability that both authoritarian and middle ground regimes would undergo transition to a more liberal regime type. The results highlight how the dichotomization of regime type into democracy-nondemocracy categories might obscure important transition versus consolidation effects. The results also indicate that hegemonic socialization mechanisms work in the same hypothesized manner for both democratic and authoritarian states. The study provides evidence that identity-based socialization mechanisms can and do have important effects not just on the theoretical periphery of political science, but in the core area of national security.

DEDICATED TO

My friends at Duke

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CHAPTER ONE

PURPOSE, THEORY, AND OVERVIEW

The nature of the international system is shaped by social structures and social interaction as well as material capabilities and power considerations. A state's power is most often conceived of and measured in terms of the capacity of its military organizations to coerce, threaten, or impose their will on others. Yet these same military institutions form an integral part of the political social structures of states. Great attention has been paid to the instrumental role played by military force. Little attention has been paid to how military institutions socially interact to purposefully shape the international system in such a way as to lessen the need to coerce, threaten, and impose.

The purpose of this study is to provide a systematic examination of how US military engagement activities have influenced democratization through the political socialization of the engaged states. Numerous studies, as well as US foreign policy assumptions and military strategies based on "engagement," support the notion that US military-to-military contacts, and the normative influence they exert, have a positive effect on socializing foreign military personnel to democratic norms and practices. However, the nagging question continues to surface: do US military engagement activities exert a positive or a negative influence on political liberalization processes within the engaged states? Anecdotal evidence can be found to support both pro and con

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arguments; however, there has been little research conducted to establish to what extent US military institutions have made either a positive or a negative *systematic* contribution to democratization through social rather than coercive means.

In this study I assess to what extent and under what conditions US military engagement activities are associated with either liberalizing or authoritarian trends during the years 1972-2000 in three different types of political entities: consolidated democratic states, consolidated authoritarian states, and the middle ground of states that are neither of the other two. The findings of this study provide policymakers important information on the efficacy of US military engagement activities and their effect on strategies aimed at "promoting democracy abroad." The findings also demonstrate how both norms and social construction processes might operate at the individual level to influence the behavior and identity of states. Finally, if we give credence to the democratic peace finding, then the identity-based socialization processes inherent in US military engagement activities are also shown to shape the nature of the international system in a manner that lessens the need for the coercive use of US military force.

This study is unique in several aspects. First, I provide evidence that constructivist identity-based mechanisms can and do have important effects not just in the theoretical periphery of political science where such mechanisms are usually relegated, but in the core area of national security. Human interaction on a person-to-person level can change ideas, and those ideas matter in significant material ways that affect the security concerns of states.

Second, as will be discussed in Chapter Two, my study employs an original, high-quality data set encompassing numerous countries that had not previously been analyzed

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together in large quantitative analyses of democratization. Of particular note, is the inclusion of many consolidated authoritarian states such as those in the Persian Gulf region that have been excluded from several influential systematic studies of democratization[1] as well as states created in the wake of the dissolution of the Soviet Union.

Third, I chose survival analysis as the methodological approach most appropriate to my research questions that focused on the influence of various factors on the longevity of specific types of political regimes. The results allow assessment of how US military engagement activities as well as nine other factors affected the longevity or survival probability of different types of regimes over the 28 year time span.

Fourth, consolidated authoritarian and consolidated democratic states were specifically assessed, as well as the middle ground of states. This differs from other major studies that have frequently used the dichotomization of democracy-nondemocracy as a measure of political regime type. Because consolidated authoritarian states were broken out of the more general "nondemocracy" categorization, the results provide specific and useful insight into the most hardcore of authoritarian states that are of high interest and policy relevance when mechanisms of democratization are discussed. Additionally, my categorization of regimes allows assessment of middle ground states that are, as a group, fundamentally different polities from their consolidated counterparts.

Fifth, the study incorporates a country specific measure of Soviet influence that attempts to measure the differential influence of the Soviet Union on various countries as

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[1] For a discussion of the importance of including these states and a short list of influential studies that do not include them, see Michael L. Ross, "Does Oil Hinder Democracy?" *World Politics* 53 (April 2001), 328.

a counter-influence to country specific US influence during the Cold War years. This differs from the standard practice of using a Cold War indicator variable that only accounts for the fact that the Cold War era might have been different from any other era rather than trying to account for the differential influence of both the Soviet Union and the United States on each state.

In the next sections of this chapter I first discuss the theoretical ideas behind the concept of political elite socialization and how such socialization might take place and exert influence on the political identity of a country. Second, I provide background material on the policy relevance of understanding the effect of engagement activities within the context of national security strategies pursued by the United States. Third, because this study addresses specific factors of democratization, I review relevant background material and previous major findings from the democratization literature as they apply to my research. It should be noted that my study focused on whether US military engagement activities were associated with the survival or failure of various types of political regimes. I do not address the premise that a change in political identity toward a more democratic regime type promotes a more peaceful international system or is in the national security interest of the United States, but assume that liberalization is a positive outcome in terms of US national security. Finally, I conclude this chapter with an overview of the contents of the report to follow.

Socialization, Engagement, and Identity Change

The concept that I use in this study of political elite socialization as an influence on democratization is based on the idea that state behavior might be altered by altering

the political identity of a state through the mutual social interaction of those members of a state who wield policymaking influence within the state's government. The notion that the goal of political socialization is political identity change of the state is an important one. As will be discussed below, the United States has an explicit and clearly expressed preference for an international system containing democratic states as opposed to nondemocratic states because US policymakers believe that democratic states are less threatening, more cooperative, and more peaceful toward each other and the United States. Based on this assumption, the political identity of a state is a relevant and important security consideration. Democratization has thus become a security strategy, in addition to being based on an ideological belief in democracy as a superior governing system on human dimensions.

Within US policymaking circles it is believed that the national security interest of the United States might effectively be pursued through strategies that seek to further the democratization, or at the least liberalization, of nondemocratic states. A democratization strategy based on socialization of political elites is less costly, less dangerous, and possibly more efficacious than using military force to coerce peaceful or cooperative behavior or, at the extreme, impose regime change on a nondemocratic state. While a state undergoing political identity change can certainly experience domestic instability and internal conflicts, such domestic conflict is not perceived to be as threatening to US security, as well as the stability of the international system, as escalating interstate security concerns made more intensive by military coercion. In short, a strategy of persuasion is less threatening to others and less costly to the United States than the use of military force. While military coercion always remains an option, political socialization

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or "engagement" has been a useful national security strategy pursued by the United States.

The term "socialization" has taken on two differing meanings within international relations literature[2] and it is useful to define each meaning and to be explicit in how this study employs the term. As used by Kenneth Waltz (1979) socialization refers to how the structure of the international system serves as a mechanism whereby the observed behavior of states is altered. For Waltz this mechanism is conceived of as the distribution of material capabilities within an international system that is ordered by anarchy and contains states whose main desire is to survive. Socialization in this sense has to do with fear of others' capabilities that drive all states to behave in a similar manner no matter the differences in their domestic structures. Waltz noted "socialization brings members of a group into conformity with its norms,"[3] and went on to say "the differences of society's members are greater than the differences in their observed behavior."[4] Waltz argued for a socialization process that "limits and molds behavior"[5] rather than changing the internal characteristics or identity of states themselves.

While it is useful to consider the conditions under which the behavior of states might be altered by the distribution of capabilities within the international system, the focus of this study is on socialization processes that take place within the domestic political structure of states and how that might be influenced by the interactions of political elites within and across states. Unlike Waltz's conceptualization of

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[2] This point is made most clearly by Alexander Wendt in *Social Theory of International Politics* (Cambridge: Cambridge University Press, 1999), 100-102.
[3] Kenneth N. Waltz, *Theory of International Politics* (New York: McGraw Hill, 1979), 75-76.
[4] Kenneth N. Waltz, *Theory of International Politics*, 76.
[5] Kenneth N. Waltz, *Theory of International Politics*, 76.

socialization, this study explores an identity altering socialization process whereby exchanges and contact between political and military elites might influence the political identity or character of a state. This conceptualization of socialization is closer to the theoretical ideas within constructivist theory, such as those of Alexander Wendt (1999) who described socialization as a process whereby actors come to redefine themselves and others based on their social interactions. It is important to note that these interactions are not solely persuasive but may also be the result of material incentives, yet the underlying result is a redefinition of self based on this mutual interaction. In the process of self-redefinition, the acceptance of new beliefs and values by political elites may well lead to the development of new institutions and practices, thereby altering the fundamental polity character of a state.

Several studies have identified mechanisms whereby a powerful state such as the United States might socialize other states in both the behavioral and identity senses described above. Robert Gilpin (1981) argued that hegemonic influence rests on both material and ideational influence. He proposed three causal mechanisms: the use of military and economic power to coerce, the ability to provide public goods, and the sharing of norms and beliefs between states. Gilpin placed great emphasis on the first and discounted the latter two as weak to ineffective.[6] John Ikenberry and Charles Kupchan (1990) also found value in both a realist behavior-based argument as well as a constructivist identity-based argument. They argued that a powerful state might exert its influence, first by manipulating material incentives, and second by altering the

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[6] Robert Gilpin, *War and Change in World Politics* (Cambridge: Cambridge University Press, 1981), 34.

substantive beliefs of policymakers.[7] While acknowledging the role played by material capabilities in socialization efforts directed by powerful states at weaker states, Ikenberry and Kupchan noted that scholars recognize that there is "a component of power that is not reducible to the coercive capacities of the hegemonic nation. The ability to generate shared beliefs in the acceptability or legitimacy of a particular international order - that is, the ability to forge a consensus among national elites on the normative underpinnings of order - is an important if elusive dimension of hegemonic power."[8]

Ikenberry and Kupchan conceived of socialization as "a process of learning in which norms and ideals are transmitted from one party to another."[9] They presented three mechanisms of hegemonic socialization. First, normative persuasion by a powerful state might lead to a change in the norms and then subsequent policy change in targeted states. Second, the powerful state might use external inducements such as economic incentives or military coercion that cause a change in policies, rules, or institutions which in time come to be viewed as legitimate, leading to the acceptance of the norms that underlie them. And, third, a powerful state might intervene directly in the internal affairs of another state internally reconstructing and imposing on it new domestic structures and policies.[10] The first mechanism is most useful and applicable to the theoretical basis of my study, although it is difficult to separate it totally from the other two mechanisms.

Normative persuasion is most similar to socialization conceived of as an interactive social process whereby identity and hence behavior might be altered.

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[7] G. John Ikenberry and Charles A. Kupchan, "Socialization and Hegemonic Power," *International Organization* 44, no 3 (Summer 1990), 285.
[8] G. John Ikenberry and Charles A. Kupchan, "Socialization and Hegemonic Power," 289.
[9] G. John Ikenberry and Charles A. Kupchan, "Socialization and Hegemonic Power," 289.
[10] G. John Ikenberry and Charles A. Kupchan, "Socialization and Hegemonic Power," 290-292.

Ikenberry and Kupchan argued that normative persuasion occurs when a powerful state relies on "ideological persuasion and transnational learning through various forms of direct contact with elites in these states, including contact via diplomatic channels, cultural exchanges, and foreign study."[11] Policymakers in states targeted by a hegemonic state would eventually internalize the norms and ideas transmitted from the hegemonic state, and would then see themselves and their state as a member of an international community in which members shared the norms and beliefs of the hegemonic state. Ikenberry and Kupchan, following Max Weber, called this process "legitimate domination" by the powerful state.[12] These theoretical ideas are useful to my study because they focus on elite political leaders as key to the socialization processes that might lead to a change in the political identity of a state.

Political Identity Change as a Security Strategy of the United States

US policy makers as well as US citizens have traditionally viewed the export of democratic ideals, values, and institutions as decisively contributing to a more peaceful international system. Normative and pragmatic beliefs in the efficacy of US democratization efforts have deep ideological and historical roots. Immanuel Kant's *Perpetual Peace: A Philosophical Sketch* provided the first fundamental theoretical base linking liberal ideas of individual freedom and democratic governance with realist ideas of national security and national interest. Published in 1795 when the United States was still in its infancy and the wars of the French Revolution raged across Europe, Kant

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[11] G. John Ikenberry and Charles A. Kupchan, "Socialization and Hegemonic Power," 290.
[12] G. John Ikenberry and Charles A. Kupchan, "Socialization and Hegemonic Power," 289.

argued that international peace might be obtained through a federation of republican states. The treatise serves today as the conceptual foundation for arguments supporting both scholarly and policy beliefs that democratic states form the basis of a more peaceful international system because democratic states rarely, if ever, use large-scale combat operations against each other to resolve political disputes.[13]

Michael Doyle (1983) reiterated the relevance of Kant's argument for the historical experience of the United States and traced the intermingling of liberal and nonliberal aspects of US foreign policy. He noted, "in the United States, and in other liberal states to a lesser degree, public policy derives its legitimacy from its concordance with liberal principles. Policies not rooted in liberal principles generally fail to sustain long term public support."[14]

The preference of the United States for an international system of democratic states was definitively shaped by lessons learned after the great world wars of the early twentieth century. Four days before the United States declared war on Germany in 1917, US President Woodrow Wilson justified US involvement by linking peace with the furtherance of democratic governance: "Our object now, as then, is to vindicate the principles of peace and justice in the life of the world as against selfish and autocratic power and to set up amongst the really free and self-governed peoples of the world such a concert of purpose and of action as will henceforth ensure the observance of those

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[13] See for example, R. J. Rummel, "Libertarianism and International Violence," *The Journal for Conflict Resolution* 27, no 1 (March 1983), 27-71; Michael Doyle, "Liberalism and World Politics," *American Journal of Political Science* 80, no 4 (December 1986), 1151-1169; or Bruce Russett and Zeev Maoz, "Normative and Structural Causes of the Democratic Peace, 1946-1986," *American Journal of Political Science* 87, no 3 (September 1993), 624-638.
[14] Michael W. Doyle, "Kant, Liberal Legacies, and Foreign Affairs, Part 2," *Philosophy and Public Affairs* 12, no 4 (Autumn 1983), 343.

principles."[15] Yet in the aftermath of the war, the United States failed to pursue these same goals effectively. Collective security proved ephemeral when the United States declined to join the League of Nations. Without active US involvement, ideals of self-determination evolved into the rise of nationalistic authoritarianism in Europe. It was only after the second cataclysmic world war rooted in such authoritarianism had destroyed much of civilized Europe that US active efforts toward democratization became firmly established as active US foreign policy. The United States political leadership recognized the need to rebuild a Europe that was democratic, free, and economically open; as well as the need to counter and contain the expansion of Soviet socialist authoritarianism.

National security scholars Amos Jordan, William Taylor, and Michael Mazarr (1999) argued that US foreign policy has always been shaped by a messianic sort of idealism, particularly in the aftermath of World War II: "America had become a status quo power, its people essentially satisfied with life as they knew it, holding their condition of peace and harmony at home as an ideal for all rational people everywhere. They believed in the virtues of democracy and took it for granted that the fruits of democracy should represent meaningful goals to all people throughout the world."[16]

While such idealism is certainly evident in US efforts to promote democratic governance, it is also undeniable that such ideals have a sound realist basis as well. During the Cold War era US affinity for democracy was balanced by important

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[15] Woodrow Wilson, "War Message," 2 April 1917, as quoted in Michael W. Doyle, "Kant, Liberal Legacies, and Foreign Affairs, Part 1," *Philosophy and Public Affairs* 12, no 3 (Summer 1983), 216.
[16] Amos A. Jordan, William J. Taylor, Jr., and Michael J. Mazarr, *American National Security* (Baltimore: John Hopkins University Press, 1999), 55.

national security concerns and did not prevent the United States from supporting

authoritarian regimes as a counter to the expansion of Soviet hegemonic authoritarianism.

The intermingling of an ideological belief in the efficacy of democratic governance with

realist national security concerns is a fundamental aspect of my theoretical argument

linking Ikenberry and Kupchan's "legitimate domination" with US strategies of

"promoting democracy abroad."

Across major political parties, the political leadership of the United States has

believed that a more peaceful international society is, in part, a function of the identity of

the states within it. This longstanding normative and pragmatic preference for an

international system of fellow democratic states has been clearly and explicitly stated in

the most recent US national security statements such as the Clinton administration's *A

National Security Strategy for a Global Age*:

> At the dawn of the 21st century, our world is very different from that of our
> Founding Fathers, yet the basic objectives in the preamble to the Constitution
> remain timeless: provide for the common defence, promote the general welfare,
> and secure the blessings of liberty to ourselves and our posterity. The changes
> we have seen in the last decade do not alter these fundamental purposes. They
> merely blur the dividing line between domestic and foreign policy and heighten
> the imperative for a cohesive set of active US efforts, both at home and abroad,
> to pursue three modern day goals derived from the preamble's objective's:
> **enhancing security at home, promoting prosperity, and promoting
> democracy and human rights.**[17]

Even the robustly realist Bush administration has argued for democratization as a worthy

goal to be pursued. The 2002 *National Security Strategy of the United States of America*

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[17] The White House, *A National Security Strategy for a Global Age*, December 2000, 1. Bolded text is in
the original.

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published by the Bush White House bluntly states: "We will extend the peace by encouraging free and open societies on every continent."[18]

Born of historical experience, idealism, and realist security concerns, it is widely believed, both within US policy realms as well as academia, that increasing the number of states that are democracies would result in a more peaceful international system. With this belief then comes the desire and objective to influence nondemocratic states to become democratic and to help new democracies consolidate. While democratizing objectives have certainly been pursued through the coercive use of military force against authoritarian states, these objectives have also been pursued in less dramatic, costly, and visible ways. For example, Joseph Grieco (2002) described how the formation and maintenance of a post-WWII Kantian zone of peace depended on a "Kantian hegemonic republic." He argued that the United States has performed this role using a synthesis of realist and liberal mechanisms in which US-centered military alliances have played a significant role.[19]

The influence of the US military is based on both material and ideational mechanisms such as those proposed by Ikenberry and Kupchan. US military force has been used to impose regime change in such diverse authoritarian states as Germany, Japan, Panama, Afghanistan, and, most recently, Iraq. Monetary assistance has been used to induce structural changes such as in personnel systems, equipment choices and upgrades, or in the defining of doctrines and strategies for national security in other

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[18] The White House, *The National Security Strategy of the United States of America*, September 2002, accessed at www.whitehouse.gov/nsc/nss.html <30 June 2003>.

[19] Joseph M. Grieco, "A 'Powerful and Enlightened Nation': America, Kant's Federation of Free States, and Democratic Durability Around the World, 1950-1990," paper presented at the American Political Science Association Annual Meeting, Boston, 29 August - 1 September 2002.

states. Establishment of permanent institutions (rules or organizations) have also promoted the establishment of social contacts and their influence in spreading values and norms, and in building trust and established channels of communication and interaction. Additionally, personal contacts between individual political and military elite leaders as well as mid-to-upper level personnel might also exert a socializing influence on a state's political identity through the adoption of democratic aspirations, values and beliefs by personnel. Many of these mechanisms operate through long standing military alliances such as the North Atlantic Treaty Organization, or the Combined Forces Command operating within the Republic of Korea; however, a significant number of US military engagement activities also operate outside of such security alliances based on other modes of military-to-military contact such as the basing of US troops in other countries or training and educational exchange programs hosted by US military schools for foreign military officers of all ranks. While material capabilities are certainly a key method of influence, influence might also be extended through ideational modes such as military-to-military contacts.

US Military Engagement Activities

Military engagement as a specific national security strategy has been both enunciated and pursued by the United States Armed Forces. The 1997 *National Military Strategy of the United States* explicitly states "the military has an important role in engagement – helping to shape the international environment in appropriate ways to bring

about a more peaceful and stable world."[20] The document goes on to specify benefits to

be gained in pursuit of engagement as a military strategy: "engagement serves to

demonstrate our commitment; improve interoperability; reassure allies, friends and

coalition partners; promote transparency; convey democratic ideals; deter aggression; and

help relieve sources of instability before they can become military crises."[21]

US military doctrine, as explicitly stated by the Chairman of the Joint Chiefs of

Staff in his National Military Strategy, has emphasized the importance of military-to-

military contacts as a mechanism for promoting US national security in the identity-based

socialization sense described above:

> Engagement activities, including information sharing and contacts between our
> military and the armed forces of other nations, promote trust and confidence and
> encourage measures that increase our security and that of our allies, partners,
> and friends. By increasing understanding and reducing uncertainty, engagement
> builds constructive security relationships, helps to promote the development of
> democratic institutions, and helps keep some countries from becoming
> adversaries tomorrow.[22]

Military-to-military contacts take place in numerous venues. As noted in the

above quote, the interaction of US military personnel with their counterparts in shared

military alliances plays a large role. The US military also participates in a number of

engagement-type activities and administers a number of programs that promote the

interaction of foreign military personnel with US military personnel in the manner

suggested by the above quote.

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[20] John. M. Shalikashvili, *National Military Strategy of the United States of America* (Washington, DC: Office of the Chairman of the Joint Chiefs of Staff, 1997), forward.
[21] John. M. Shalikashvili, *National Military Strategy of the United States of America*, 7.
[22] John. M. Shalikashvili, *National Military Strategy of the United States of America*, 2.

US military engagement as an observable and measurable factor could be operationalized in a number of ways. In this research project the concept of US military engagement through military-to-military contacts included five different observable measures: (1) participation by a country's military in US military education and training programs, (2) membership by a country in a security alliance with the United States, (3) US military presence in a country, (4) recipient of US military assistance, and (5) recipient of US military sales deliveries. Each of these measures of US military engagement activities is introduced in this chapter. A more detailed explanation of how each was operationalized is presented in Chapter Two.

The first measure focuses on International Military Education and Training (IMET) programs that offer foreign military personnel opportunities to attend US military education and training institutes. IMET is most well known for its funding of foreign officer attendance at nearly year long professional military education programs within the US Department of Defense's network of staff and war colleges at both the military service and national levels. However IMET funding is more extensive, supporting the attendance of selected military personnel in over 2,000 different programs.[23] There are several purposes of IMET to include technical training, but its primary focus is socialization of foreign officers through exposure to life in the United States and through daily interaction with US military personnel.[24] While attending US

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[23] John A. Cope, *International Military Education and Training: An Assessment*, McNair Paper 44 (Washington, DC: National Defense University, Institute for National Strategic Studies, 1995), 13.

[24] While IMET provides specific education or training, the general goal of the program has been explicitly to promote greater understanding of the United States' norms, values, beliefs, and practices. The Foreign Assistance Act of 1961 (Public Law 87-195) formally defined the purposes of IMET education and training as (1) to encourage effective and mutually beneficial relations and increased understanding between the United States and foreign countries in furtherance of the goals of international peace and security; (2) to

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military schools foreign military personnel, many of whom are accompanied by their families, live for an extended time in the United States and are exposed in depth to both the US military and US civil society.

IMET has served for decades as the focal point of US military-to-military contacts and it has long been argued that the experiences and personal contacts made by foreign military personnel during their extended stay in the United States have a positive influence on liberalization in the home countries of IMET participants. Joseph Nye and William Owens (1996) argued that government programs such as IMET serve as an influential and cost effective way for the US to employ soft power, particularly to help countries that have made the transition away from authoritarianism to deepen and stabilize their new democracies.[25] In a systematic analysis covering the years 1950-1999, Douglas Gibler and Tomislav Ruby (2002) found that attendance by a country's military officers at selected US staff and war colleges was positively associated with a country's level of democracy and negatively associated with coups attempts.[26] John Cope (1995), in a study by the National Defense University's Institute for National

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improve the ability of participating foreign countries to utilize their resources, including defense articles and defense services obtained by them from the United States, with maximum effectiveness, thereby contributing to greater self-reliance by such countries; and (3) to increase the awareness of nationals of foreign countries participating in such activities of basic issues involving internationally recognized human rights. Reference: United States Senate and United States House of Representatives, Committee on Foreign Relations and Committee on International Relations, *Legislation on Foreign Relations Through 1999*, volume I-A (Washington, DC: US Government Printing Office, March 2000), 227, accessed at disam.osd.mil/intl_training/Resources/Legislation.htm <12 July 2002>.

[25] Joseph S. Nye and William A. Owens, "America's Information Edge," *Foreign Affairs* 75, no 2 (March-April 1996), 31.

[26] Douglas M. Gibler and Tomislav Z. Ruby, "Democratizing through the Military: The United States Professional Military Education of Foreign Officers, 1950-1999," unpublished manuscript of 9 May 2002, Department of Political Science, University of Kentucky. The authors collected original data on attendance by foreign military officers at selected intermediate and senior level PME institutes. Their key explanatory variable was a dichotomous indicator of attendance in the last five years at any of the following institutes: the Air Command and Staff College, Air War College, Army Command and General Staff College, Army

Strategic Studies, provided the most comprehensive qualitative research to date on the effectiveness of IMET as a military engagement activity promoting democratization. Cope argued that "international military students have played positive supporting roles in remarkable national political transformations over the past five years. ... What these officers [who supported pro-democracy forces in Mali, Thailand, Venezuela, and Guatemala] share in common is an experience in the United States that changed their thinking about democracy."[27]

While democracy is not a certain outcome for countries participating in IMET programs, the National Defense University study supports the argument that IMET participants may have a positive effect in aiding liberalization. In considering the scope of US military-to-military contact programs, Cope noted "there is no comparable historical example of so many diverse sovereign states augmenting the professional development of their armed forces by entrusting so many potential national leaders to the education and training of another state."[28] Participation in IMET supported military training and education programs is an excellent operational measure of normative or persuasive hegemonic socialization.

The second measure of US military engagement through military-to-military contacts is membership in a security alliance with the United States. Established security

War College, Industrial College of the Armed Forces, and National War College. Their analysis used logit models supplemented by case studies of Argentina, Greece, and Taiwan.

[27] John A. Cope, *International Military Education and Training: An Assessment*, 34-35. The study reviewed past research, conducted interviews, held workshops, and used questionnaires to gather data from around the world from US military, US government, and US nongovernmental personnel involved or impacted by the program.

[28] John A. Cope, *International Military Education and Training: An Assessment*, 12.

alliances have institutionalized rules, command systems, common organizations, compatible personnel systems, as well as interoperable equipment and technologies. Establishing and maintaining alliances necessitates a significant level of military-to-military interaction particularly at the more senior ranks within combined commands, as well as continued diplomatic exchanges between the US and allied military and political leaders. The formation and institutionalization of a security alliance involves substantial interaction to include designing common doctrine, common command and control systems as well as ensuring operational interoperability of equipment, personnel and doctrine. Personnel of all levels interact on a daily basis within established and institutionalized security alliances. Because alliances are formed to achieve broad, long-term security objectives, their socialization influence would be much greater than between coalition partners who interact only in the short-term to achieve specific objectives. Allies literally spend decades forming the bonds needed to operate together in military crises. Common alliance membership is another excellent measure of hegemonic socialization through extensive long-term military-to-military contacts.

The third measure of US military engagement through military-to-military contacts is the permanent presence of US military troops stationed in a country. The *National Military Strategy of the United States* specifically noted the military engagement role played by forward deployed US military forces: "engagement is a strategic function of all our Armed Forces, but it is a particular task of our forces overseas – those forward stationed and those rotationally or temporarily deployed."[29]

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[29] John. M. Shalikashvili, *National Military Strategy of the United States of America*, 7.

It might be reasonably argued that the presence of US military troops stationed in a country entails significant interaction between US military commanders and local military and political elites as well as between US troops, local military soldiers, and local populations. Exchange of information about each country's respective norms, beliefs, and perspectives would be very likely. At the elite political level, diplomatic exchanges would be necessary to set the conditions under which US troops would be stationed with such exchanges concerning a wide range of issues from housing to law enforcement jurisdiction. The presence of US military troops on a large scale also entails interaction with local civilians who provide contracted services to support the basing of US troops, but who also support individual military personnel with the services and necessities required in their daily personal lives. US military units operating in foreign countries oftentimes have specific official duties that entail "engagement" with the local population such as assisting in local construction projects or providing medical care. Socialization may, of course, occur in either direction, but this study is only concerned with the association of US military presence with liberalization or authoritarian trends within the host country.

The fourth measure of US military engagement, being a recipient of US military financial aid, is not as clearly a measure of military-to-military contact as the previous three. I have called this an indirect method of influence because military financial assistance flows through the political structure but is ultimately beneficial for the military establishment of a country. Financial engagement that involves a country's military establishment might well open new modes of influence between a country's military leadership and its political leadership based on the anticipated awarding or withdrawal of

US military aid. US military assistance ultimately benefits the military establishment of a country, and over time may be greatly desired by a country's military leadership who then exert pressure on their political counterparts to keep the money flowing. For example, a country's military leaders might lobby their political leaders for certain military reforms, such as in equipment purchase or upgrade, military doctrine, or personnel systems, in order to continue to receive military financial assistance from the United States. The altering of institutional rules and organizations engendered by the desire to continue to receive military financial aid might have long-term effects on the political identity of the country.

The fifth measure of US military engagement is influence exerted through the process of acquiring US military technology and equipment, specifically in the sale of US military hardware, maintenance contracts, technical schooling, in-country training and similar items that come under the auspices of US military sales deliveries. It would seem reasonable that countries that purchase military equipment from the United States would be drawn into engagement with the US military or defense contractors in both negotiations to purchase as well as subsequent delivery and maintenance of purchased items. Military sales deliveries might exert both direct and indirect influence because the acquisition process flows through the political structure but is ultimately beneficial for the military establishment of a country. The military establishment might exert pressure on their political counterparts in order to obtain US technology and equipment, and subsequently for the purchase of spare parts, maintenance and training needed to keep the equipment operational.

The influence of purchasing US military sales deliveries is analogous to ideas on the globalization of US culture. US military items are generally considered better than those available from other sources and are sought out. Within financial constraints the more US military equipment a country has, the greater the perception of both utility and modernity of its military forces. Once equipment is acquired, further interaction becomes necessary for the negotiation and sale of follow-on systems as well as maintenance, spare parts, upgrades, training of personnel, and the like. The desire to acquire US technology and equipment necessarily increases the opportunities for interaction between political and military elites of the United States and the recipient government's political and military elites with attendant potential for exchange of ideas, values, and beliefs.

The five measures of US military engagement chosen for this study reflect all three of the socialization mechanisms proposed by Ikenberry and Kupchan: coercion, inducement, and normative persuasion. In some of my measures, such as the presence of US troops stationed in a country, all three mechanisms are represented. In others, such as IMET participation and common alliance membership, normative persuasion takes a more prominent role as the primary mechanism. In assessing their own mechanisms Ikenberry and Kupchan concluded "socialization comes about principally through external inducement or internal reconstruction and that normative persuasion is insufficient to drive the socialization process."[30] However, they caveated this finding, noting that normative persuasion should not be discounted because "the process of

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[30] G. John Ikenberry and Charles A. Kupchan, "Socialization and Hegemonic Power," 314.

socialization can lead to outcomes that are not explicable simply in terms of the exercise of coercive power."[31]

Ikenberry and Kupchan's assessment of the importance of material factors is supported by much of the literature on democratization, which has focused specifically on economic development as a key explanatory factor, although ideational factors such as religious affiliation have also played a prominent role.

Influences on Democratization

Within previous research on democratization several factors recur in numerous studies. These include economic well-being, religious affiliation, ethnic diversity, status as a former British colony, status as a relatively new country, and the impact of the Cold War era. These significant factors are also included within my study with one caveat. Because my study spanned the years around the fall of the Soviet Union and specifically focused on hegemonic socialization, it was important to try to capture the differential influence of Soviet policies on each country rather than solely account for the existence of the Cold War era. As will be discussed I employed a measure designed to capture the hegemonic socialization influence exerted by the Soviet Union because it would be expected that liberalizing and authoritarian trends within each state were influenced by the hegemonic socialization efforts of *both* the Soviet Union and the United States.

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[31] G. John Ikenberry and Charles A. Kupchan, "Socialization and Hegemonic Power," 315.

Economic

The influence of wealth or economic well-being has been the single greatest focus of democratization research in the past fifty years. The importance of the link between economic well-being and democracy also has historic voice within the national security considerations of the United States that have consistently emphasized the importance of promoting economic prosperity, free market economies, and democratic governance as intertwined goals. Trade openness has been linked to economic well-being by the argument that in the long-term trade openness promotes a higher level of economic development.

One of the first contemporary studies to link levels of economic well-being to democratizing trends was Seymour Martin Lipset (1959) who argued that "Perhaps the most widespread generalization linking political systems to other aspects of society has been that democracy is related to the state of economic development. Concretely, this means that the more well-to-do a nation, the greater the chances that it will sustain democracy."[32] Kenneth Bollen and Robert Jackman (1985) reconfirmed and updated this finding using data for 1960 and 1965, concluding: "if we had to choose a single factor, level of economic development appears to be the dominant explanatory variable at work here."[33] Larry Diamond (1992) detailed evidence from numerous subsequent studies from the 1960s through the 1990s that found support for this proposition.[34] In

[32] Seymour Martin Lipset, "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," *The American Political Science Review* 53, no 1(March 1959), 75.

[33] Kenneth A. Bollen and Robert W. Jackman, "Economic and Noneconomic Determinants of Political Democracy in the 1960s," *Research in Political Sociology* 1 (1985), 42.

[34] Larry Diamond, "Economic Development and Democracy Reconsidered," in Eds. Gary Marks and Larry Diamond, *Reexamining Democracy: Essays in Honor of Seymour Martin Lipset* (Newbury Park: Sage Publications, 1992), 93-139.

more recent years, Samuel Huntington (1991) in his influential book *The Third Wave* argued, much as Lipset had, that one of the most important factors promoting democratization during the 1970s and 1980s was increased economic well-being and global economic growth that improved living standards and educational levels, and contributed to the growth of an urban middle class. Recognition of the importance of the link between democracy and economic prosperity was reinforced by the visibly poor performance of the command economies of the Soviet Union and it allies.[35] Huntington also argued that level of economic development was an important factor associated with a country's ability to consolidate its democratic governance once achieved, and that international economic collapse or crises were potential causes of a return to nondemocratic governance.[36]

In a panel study with data covering five year intervals between 1960 through 1985, Lipset, Kyuong-Ryung Seong, and John Torres (1993) revisited Lipset's original argument with data updated for 1970s and 1980s, and found that "economic development is the single most important predictor of democracy when controlling for other variables."[37] Other scholars have also replicated this finding. John Londregan and Keith Poole (1996) noted that after controlling for various political, leadership and country-specific effects, "the democratizing effect of income remains as a significant factor promoting the emergence of democratic political institutions."[38] In a large systemic

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[35] Samuel Huntington, *The Third Wave: Democratization in the Late Twentieth Century* (Norman: University of Oklahoma Press, 1991), 45, 106-107.

[36] Samuel Huntington, *The Third Wave: Democratization in the Late Twentieth Century*, 271-273, 292-293.

[37] Seymour Martin Lipset, Kyuong-Ryung Seong, and John Charles Torres, "A Comparative Analysis of the Social Requisites of Democracy," *International Social Science Journal* 45, no 2 (May 1993), 159-160.

[38] John B. Londregan and Keith T. Poole, "Does High Income Promote Democracy?" *World Politics* 49 (October 1996), 28.

study of the determinants of democracy, Robert Barro (1999) also found economic level of development positively associated with democracy and noted that "democracies that arise without prior economic development – sometimes because they are imposed by former colonial powers or international organizations – tend not to last."[39]

One of the most encompassing studies in recent years of the relationship of economic development to democratization is the well-known book *Democracy and Development* by Adam Przeworski, Michael Alvarez, José Cheibub and Fernando Limongi (2000) [hereafter referred to as Przeworski et al.]. Unlike previous studies that tended to blur the distinction between the effects of economic well-being on transition to democracy as opposed to consolidation of democracy once achieved, Przeworski et al. found a significant difference between the two effects. They concluded, "In sum, the causal power of economic development in bringing down dictatorships appears paltry. The level of development, at least as measured by per capita income, gives little information about the chances of transition to democracy. On the other hand, per capita income has a strong impact on the survival of democracies."[40] While the transition versus consolidating effect of economic well-being might be disputed, economic well-being, conceptualized as level of economic development, has been consistently identified as a significant factor in democratization processes. As such it was imperative to include this factor in my study.

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[39] Robert Barro, "Determinants of Democracy," *Journal of Political Economy* 107, no 6, part 2 (December 1999), S160.

[40] Adam Przeworski, Michael E. Alvarez, José Antonio Cheibub, and Fernando Limongi, *Democracy and Development: Political Institutions and Well-Being in the World, 1950-1990* (Cambridge: Cambridge University Press, 2000), 98.

The argument to include a measure for trade openness in a study of democratization is based less on research conducted within the previous democratization literature than on literature within the field of international political economy. Of the previous democratization studies mentioned, only Lipset, Seong, and Torres included a measure of trade openness, and it was found to be not significant overall although it showed some negative effects in 1975 and 1985. They concluded that "the effects of trade dependence on democratization produced inconsistent results."[41]

Liberal economic theory maintains that economies that are open are able to gain benefits accruing from comparative advantages and economies of scale that allow them to grow faster, produce more income, and hence have a higher standard of living. Thus, all other things being equal, countries with open economies should have a higher level of economic well-being than their counterparts with more closed economies. However, within political science the focus of research has not been whether trade openness promotes prosperity, but on *how* trade openness might be achieved; it is assumed by liberal economic theorists that for a hegemon such as the United States pursuing a policy promoting trade openness is in the national interest. There have also been those who have argued that increased trade openness is a result of democratization rather than a cause.[42] Trade openness might be hypothesized to influence democratization in two ways, first by increasing economic well-being, and second by facilitating the exchange of

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[41] Seymour Martin Lipset, Kyuong-Ryung Seong, and John Charles Torres, "A Comparative Analysis of the Social Requisites of Democracy," 161.
[42] See for example, Keiko Kubota and Helen Milner, "Does More Democracy Lead to More Open Trade Regimes?" 8 December 1999, available at <www.worldbank.org/research/growth/pdfiles/keiko.pdf>.

US ideas, beliefs, and culture of which democratic ideals are a component and integrally linked to beliefs in the efficacy of free markets.

Religion

In conjunction with research examining the influence of economic well-being on democratization, religious affiliation has also been a long-term focus of research. The positive relationship of Protestantism with economic development and democratic ideals was first systematically tested by Lipset (1959) following propositions put forth by Weber linking Protestantism with individualism and the development of a middle class. Lipset identified Protestantism as one among a cluster of factors underlying stable democracy.[43] Bollen and Jackman (1985) retested the relationship using data from the 1960s and reconfirmed its significance.

In recent years the influence of various religious affiliations has been more controversial. Of particular note is the assertion that the teachings and culture of Islam are incompatible with the development of democracy. It has been further suggested that future wars are likely to have cultural based causes, and the most likely threat to the Christian-democratic West will be from Islamic societies.[44]

Lipset, Seong, and Torres (1993) noted the negative association of Islam with democracy although they had no opinion on the association.[45] In support of a negative

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[43] Seymour Martin Lipset, "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," 85. Lipset wrote: "Thus we have an interrelated cluster of economic development, Protestantism, monarchy, gradual political change, legitimacy and democracy."
[44] Samuel P. Huntington, "The Clash of Civilizations?" *Foreign Affairs* 72, no 3 (Summer 1993), 31-33.
[45] Seymour Martin Lipset, Kyuong-Ryung Seong, and John Charles Torres, "A Comparative Analysis of the Social Requisites of Democracy," 170.

association, Barro (1999) found that the fraction of the population that is Muslim in a country is significantly and negatively correlated with democracy. Manus Midlarsky (1998) had ambiguous results and noted that the effect found depended on how democracy was defined and measured. He found no significant association between Islam and the political rights aspect of democracy, but did find a significant negative correlation between Islam and both institutionalization of democracy as measured by Polity III index and liberal democracy as measured by Bollen (1993).[46] Michael Ross (2001) tried to separate the effects of wealth gained from oil exports from the effects of Islam as a country's primary religion. He found that even accounting for the negative effect of oil wealth on democracy, Islam still exerted a significant negative influence on democracy.[47]

Contrary to these results, Przeworski et al. tested for the effects of Protestantism, Catholicism, and Islam, and concluded "the only effect of religions that emerges from the statistical examination is that democracies are more likely to survive in countries in which there are more Catholics. Neither Protestantism nor Islam seems to have an effect on the emergence or the durability of democracy."[48] Previous to Przeworski et al., Huntington (1991) had also noted the significance of Catholicism, but from a radically different perspective. He argued that changes in leadership in the Catholic Church in

[46] Manus I. Midlarsky, "Democracy and Islam: Implications for Civilizational Conflict and the Democratic Peace," *International Studies Quarterly* 42 (1998), 485-511.
[47] Michael L. Ross, "Does Oil Hinder Democracy?" *World Politics* 53 (April 2001), 325-361
[48] Adam Przeworski, Michael E. Alvarez, José Antonio Cheibub, and Fernando Limongi, *Democracy and Development: Political Institutions and Well-Being in the World, 1950-1990*, 126.

1963-1965 led to church withdrawal of previous support to authoritarian governments and to support for democratization.[49]

Because the nature of the association between various religious affiliations and liberalizing trends is uncertain, this study initially explored the bivariate effects of a wide range of religious affiliations: Buddhism, Hinduism, Islam, Christianity, Catholicism, Protestantism, and Orthodoxy on the survival of different regime types. The results of this initial analysis then led to the narrowing of religious affiliations to Islam and Christianity for the multivariate analysis.

Ethnic Diversity

Ethnic diversity, as well as religious diversity, forms another aspect of cultural arguments on liberalizing trends. In this aspect of the cultural argument it is not religious or ethnic affiliation *per se* that affects democratization, but the existence of societal diversity. It is argued that democracies have less chance of surviving in countries that have a high level of societal diversity, however this influence is less significant in authoritarian states where societal participation in the give and take of politics is muted.

There has been considerable effort within political science not only to understand the effects of societal diversity, but also to design an accurate operationalization of the concept. Major research has focused on accurately measuring societal diversity particularly along ethnolinguistic lines, and to date several measures have been proposed although none have been found to be totally satisfying.[50] Using various measures our

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[49] Samuel Huntington, *The Third Wave: Democratization in the Late Twentieth Century*, 45, 106.
[50] For discussion of measures, their relevance and usefulness see: Daniel N. Posner, "Ethnic Fractionalization in Africa: How Should it be Measured? What Does it Explain About Economic Growth?"

understanding of the association between ethnic diversity and democracy has remained uncertain. Bollen and Jackman (1985) were unable to confirm the significance of what they called "cultural pluralism" that they operationalized using an ethnolinguistc fractionalization measure. They hypothesized: "one interpretation of our mixed results is that the effects of pluralism on democracy depend on the presence of [cross-cutting] cleavages, such that plural societies are likely to be less democratic unless ethnic and related cleavages are cross-cut by other patterns of group membership."[51] Barro (1999), using the same ethnolinguistic fractionalization measure, found the effect to be substantially insignificant although there was "some indication that more ethnically diverse countries are less likely to sustain democracy."[52]

Ross (2001) approached the question in a different manner, inquiring whether ethnic tensions were associated with greater expenditure on the instruments of internal repression in oil-rich states. He used a measure of ethnic tension levels from the Political Risk Services Group (a private firm) and found no significant relationship. He concluded: "tensions caused by racial, national, or language divisions do not explain why oil-rich states spend so heavily on repression."[53] Pamela Paxton (2002) used another alternative measure of ethnic diversity: the percent of the total population that claims

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paper presented to the World Bank Development Research Group Seminar, 29 March 2000; James D. Fearon, "Ethnic Structure and Cultural Diversity around the World: A Cross-National Data Set on Ethnic Groups," paper presented at the annual meeting of the American Political Science Association, Boston, 29 August-1 September 2002; and Macartan Humphreys, Daniel N. Posner, and Jeremy M. Weinstein, "Ethnic Identity, Collective Action, and Conflict: An Experimental Approach," paper presented at the annual meeting of the American Political Science Association, Boston, 29 August-1 September 2002.
[51] Kenneth A. Bollen and Robert W. Jackman, "Economic and Noneconomic Determinants of Political Democracy in the 1960s," 42.
[52] Robert Barro, "Determinants of Democracy," S172. On the specific ethnolinguisitic measure used, Barro reported in footnote 16, page S172: "Most of the data come from Miklukho-Maklaya Institute (1964), as reported in Taylor and Hudson (1972, table 4.15)."
[53] Michael L. Ross, "Does Oil Hinder Democracy?" *World Politics* 53 (April 2001), 351.

membership in its largest ethnic group. She did find a significant positive relationship between ethnic homogeneity and democracy during each of the three years forming her panel study: 1965, 1977, and 1991.[54]

Finally, in their very comprehensive analysis, Przeworski et al. used Easterly and Levine's ELF60 index of ethnolinguistic fractionalization and a religious fractionalization measure. They concluded that both authoritarian and democratic regimes are less stable in diverse societies: "… the claim that common values are needed to support democracy reduces to the observation that regime transitions are more frequent in heterogeneous countries. Religious or ethnolinguistic heterogeneity simply makes all political regimes less stable."[55] Because previous research findings have been inconsistent, the question of whether greater societal diversity has differing effects on the survival of different political regime types is still open for further debate and research.

Colonial Experience

Past experience as a colonial state has also been tied to both cultural and institutional arguments of democratization. The cultural side of the argument relies on transfer of ideas and values from the colonial master to its colonies; the institutional argument contends that colonies in which indigenous personnel were able to participate in governance resulted in an experienced cadre of officials after independence. When these colonies were initially left with democratic institutions they also had experience

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[54] Pamela Paxton, "Social Capital and Democracy: An Interdependent Relationship," *American Sociological Review* 67, no 2 (April 2002), 268.
[55] Adam Przeworski, Michael E. Alvarez, José Antonio Cheibub, and Fernando Limongi, *Democracy and Development: Political Institutions and Well-Being in the World, 1950-1990*, 125.

operating within them unlike colonies that were left with democratic institutions but had no experienced indigenous personnel.

Two measures have frequently been included in analyses to control for colonial experience. One is a new country indicator identifying a newly independent state; the second is an indicator of who the colonizer was. Previous research has singled-out the colonies of Great Britain as most likely to be able to sustain democracy after independence. However in recent years systematic analyses have found that the effect of prior colonial status wanes as the years go by.

Supporting the argument that former British colonies were better able to sustain democracy, Bollen and Jackman (1985) found that former status as a British colony had substantial effects through the 1960s, but the "New Nation" effect was weak. Lipset, Seong, and Torres (1993) found the same effect, but also noted that it was only relevant in the early years following independence. They considered the differential effects on democracy in countries with different colonial masters. They concluded that "British colonies are more likely to have political democracy through the 1970s than countries that have been ruled by other colonial powers. The relationships, however, are not significant for 1980 and 1985."[56] Barro (1999) also considered different colonizers and did not find former colonial status of any sort to have a significant effect on democracy. He concluded that "the influence of former colonial status on democratic tendency mostly works indirectly through effects on the standard of living."[57] The finding that effect of status as a former British colony wanes with time was reinforced by Paxton (2002). She

[56] Seymour Martin Lipset, Kyuong-Ryung Seong, and John Charles Torres, "A Comparative Analysis of the Social Requisites of Democracy," 160.
[57] Robert Barro, "Determinants of Democracy," S175.

found that status as a former British colony exerted a significant positive influence on

democracy in her earliest timeframe (1965), it was not significant in the second

timeframe (1977), and exerted a surprisingly significant negative influence on democracy

in the final timeframe (1991). She noted that most previous studies had used data from

the 1970s or earlier, but a longer term analysis "indicates that while transition to self rule,

as facilitated by the British, enhanced democracy early in a country's independence, that

effect diminished over time."[58] Echoing previous researching findings, Przeworski et al.

found that "Democracies are somewhat more likely to survive in countries that were

British colonies (BRITCOL), but having been a colony at all (NEWC) has no effect."[59]

Because status as a former British colony had been found significant during the

earlier years of decolonization, and that influence extended into the 1970s, it was deemed

an important measure for my study. I also considered "new country" status important to

my study. It might reasonably be argued that new countries of any sort might have more

difficulty surviving, particularly if they are democracies. The indicator for new country

in my study, however, is not conceptualized the same as in the previous research noted

above. Since the data that I used for my research encompassed the decade after the fall of

the Soviet Union, new country status also accrues to states, such as the former republics

of the Soviet Union, that did not gain their new country status as a result of

decolonization during the early to mid 20th century. Other prominent examples are the

Czech Republic and Slovakia, as well as the successor states of the former Yugoslavia. It

is hypothesized that new countries in general, not just former colonies, might have more

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[58] Pamela Paxton, "Social Capital and Democracy: An Interdependent Relationship," 268-269.
[59] Adam Przeworski, Michael E. Alvarez, José Antonio Cheibub, and Fernando Limongi, *Democracy and Development: Political Institutions and Well-Being in the World, 1950-1990*, 126.

difficulty sustaining democratic forms of government as opposed to sustaining

authoritarian forms.

Soviet Hegemony

Because my study incorporates systematic data through the year 2000, the

influence of the Soviet Union and the effect of its collapse are very relevant. While many

arguments have been made about the influence on democratization of proactive US

policies such as encouraging trade openness or extending foreign assistance to improve

economic well-being, there has been little systematic study of the probable counter-

influence exerted by the Soviet Union. Lipset, Seong, and Torres (1993) noted that "The

conclusion of the Cold War enabled the international system to be used to foster human

rights and multiparty systems. Third World dictators could no longer play off the Soviet

Union against the West."[60] But are authoritarian states less likely to survive when they

no longer receive support from the Soviet Union? Are democracies more likely to

survive now that the Soviet counter-influence to US democratization efforts has been

removed? This study incorporates a country specific measure of Soviet influence. This

is different from the standard practice of using a Cold War indicator variable that only

accounts for the fact that the Cold War era might have been different from any other era

rather than trying to account for the differential influence of both the Soviet Union and

the United States on each state. The systematic effect of the fall of the Soviet Union on

democratization throughout the world, not just within the former Warsaw Pact, is of great

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[60] Seymour Martin Lipset, Kyuong-Ryung Seong, and John Charles Torres, "A Comparative Analysis of the Social Requisites of Democracy," 170.

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interest. The Soviet Union did, after all, spend considerable resources much like the United States on furthering its influence through the hegemonic socialization mechanisms discussed within this research study.

Overview of Chapters

In this chapter I have discussed the purpose and theoretical basis for my research project. The concept of political elite socialization through military engagement activities forms an important and previously little examined mechanism of hegemonic socialization. The results of systematic analyses of the long-term association between military engagement activities and liberalizing or authoritarian trends have important implications for national security policies. Additionally my re-examination of other aspects of democratization contributes to better understanding of the effect of previous theoretically established factors by extending analysis to the years beyond the end of the Cold War.

In the following chapters the structure, results, and implications of my research are presented and discussed. Chapter Two contains an overview of my analytical methodology, survival analysis. It explains why I considered survival analysis appropriate and useful as an analytic tool for my research questions. Since my data set is unique, I also provide an extensive discussion of data sources and coding decision criteria used to construct each measure that I used as well as descriptive statistics for each.

In Chapter Three I proceed to specific survival analysis statistics. I describe the results of Kaplan-Meier estimation and examine the effect of numerous factors on the survival probability for each of four regime-failure types: consolidated democracies,

consolidate authoritarian regimes, middle ground regimes that "fail" to consolidated

democracy, and middle ground regimes that fail to consolidated authoritarianism. Based

on these bivariate analyses, I assess the influence of an initial set of twenty-one

independent variables on democratization.

While the bivariate results are useful in helping to understand the individual

influence of the various factors on the survival probability of different types of regimes,

multivariate analyses provide a more comprehensive understanding of their simultaneous

influence. Cox proportional hazard regression modeling served as my methodological

tool for the multivariate analysis. In Chapter Four I explain the appropriateness of this

methodology to the research questions addressed in my study, provide a detailed

discussion of covariate selection, model construction, and the misspecification and

diagnostic tools that I used. I also describe the process and criteria that I used to assess

the implications of the results for democratization. This chapter serves as a

methodological overview. The results from the Cox proportional hazard regression

modeling for each regime-failure type are then presented in Chapter Five.

In Chapter Six I provide my overall assessment of the effect of each of nine

factors as well as the five measures of US military engagement activities on liberalizing

and authoritarian trends for the years covered by my data, 1972-2000. In Chapter Seven I

discuss the theoretical and methodological contribution my study makes to the field of

political science as well as its policy implications. My results demonstrate that

constructivist-type mechanisms such as identity altering socialization processes are

relevant, exerting influence on the nature of the international system not just on the

theoretical periphery but in important ways that effect the national security concerns of the United States.

CHAPTER TWO

THE DATA SET

In this chapter I describe the methodological approach, master data set construction, and quantitative measures used in this study to access the influence of US military engagement on democratization. The chapter begins with an overview of the analytical methodology, survival analysis, and its applicability to my research questions. Next I describe how my four regime-failure type data sets were constructed focusing on how observations, in this case country-years, were allocated to each of the four data sets. I then proceed to an in-depth discussion of data sources and coding decision criteria used to construct the measures used in my analysis. My discussion of the operationalization of concepts and the measures begins with a detailed description and assessment of the polity criteria used to define my four data sets. I then explain the five measures used to operationalize the key concept of interest, US military engagement. Finally, I identify the rationale, construction, and detailed data sources for the other substantive variables, and provide detailed information on several nonsubstantive variables that were used in the construction of the substantive variables.

Methodological Approach

The overarching methodological approach chosen for this study was survival analysis, a statistical procedure borrowed from biomathematics but also applicable and adaptable to other areas of research that consider influences on the longevity and death of individuals. Survival analysis takes a group of individuals of interest and helps us to understand what factors seem to cause some individuals in that group to survive longer than others, or conversely, what factors are associated with the timing of their death. In engineering we might be interested in how construction techniques combined with environmental stresses lead to equipment failure, for example in aircraft design. In medical studies we might be interested in how individual characteristics such as gender, weight, or genetic predisposition combined with drug therapies might lead to longer life for different types of cancer patients. In these examples of survival studies we are interested in both inherent characteristics and externally applied "stresses" or "therapies," and the effect of both on the longevity of individuals. The analytical questions asked in such studies are analogous to the questions posed in my research. Essentially, we are interested in how the various characteristics of states combined with US military engagement "therapies" might influence or be associated with the longevity of different types of states. Is international officer participation in US professional military educational programs associated with the increased probability that an authoritarian state may "die" and become more democratic? Is the presence of US military troops stationed in a country associated with its stability, i.e., longevity, no matter its regime type? Are democracies that join the United States in security alliances more likely to survive than

those that are not allied with the United States? These are the types of questions that lend themselves very readily to survival analysis.

Data Set-Up

Using survival analysis as my methodological technique required a particular technical approach to data set construction. All variables of interest were initially constructed and subsequently retained in a single master data set. Data was collected by country by year for the years 1972-2000. An observation or single line entry of data is identifiable by its unique country-year within the master data set. Limited categorical variables were required for the initial bivariate analysis using Kaplan-Meier estimation. These variables were created from their continuous counterparts and also saved within the master data set. The construction of these and other variables will be discussed in detail later in this chapter. The master data set was then used as the basis to create four separate data sets. STATA version 7.0 command sequences using tsset, snapspan, and stset were used to create and format the four separate data sets for each of the regime types and failure events of interest and to create the necessary timing and failure variables. The variables in each of the four data sets were identical with the data sets differentiated only by their defined regime-failure type, and hence which observations in the form of country-years were included in each data set.

Regime-Failure Types

Identical survival analyses were conducted using each of the four regime-failure data sets. Four data sets were needed in order to analyze how the variables of interest

influenced the survival of specific regime types. Each data set contained country-years differentiated by what I call a regime-failure type. In this context the term "regime" is used to refer to the particular nature of a country's governing system, not a specific government. I have defined three regime types: consolidated democracies, consolidated authoritarian states, and the middle ground of states.

The reader should keep in mind that in this study the term "regime" does not refer to a specific government, but to the political characterization of the governing system. Thus, governments may come and go but the regime type may remain fairly constant. Such, for example, is the case of the United Kingdom that within this study is a consolidated democratic regime throughout all years 1972-2000 despite having numerous and varying specific governments during this same time frame.

"Failure" refers to the instance when a country changes regime type. For example, a failure would occur when a consolidated democracy drops out of this regime type into either the consolidated authoritarian or middle ground categories. Failure indicates regime type change. Failure should *not* be understood in the colloquial pejorative sense of the term. For example, a middle ground country may "fail" when it transitions to a consolidated democracy.

There are four regime-failure types that define the four data sets used in this study: consolidated democracies that fail, consolidated authoritarian states that "fail," middle ground countries that fail to consolidated authoritarianism, and middle ground countries that "fail" to consolidated democracy. They are defined based on my variable Polity_smooth. Polity_smooth is a twenty-one point scale varying from most democratic at score of 20 to least democratic (or most authoritarian) at a score of 0. A consolidated

democracy is any country-year that has a score of 17 or above. A consolidated authoritarian state is any country-year that has a score of 3 or below. A middle ground state is any country-year with a Polity_smooth score between 4 and 16 inclusive. The four regime-failure types are then (1) consolidated democracy with failure defined as dropping to a score of 16 or less, (2) consolidated authoritarian with failure defined as attaining a score of 4 or greater, (3) middle ground to democracy defined as a middle ground regime type that fails when it attains a score of 17 or above, and (4) middle ground to authoritarian defined as a middle ground regime type that fails when it drops to a score of 3 or below. The regime-failure types are summarized in the table below.

TABLE 2-1
Definition of Regime-Failure Types

Regime-Failure Type	Regime Type	Failure Event
Consolidated Democracy	Polity_smooth>=17	Polity_smooth<17
Consolidated Authoritarian	Polity_smooth<=3	Polity_smooth>3
Middle Ground to Democracy	4<=Polity_smooth<=16	Polity_smooth>16
Middle Ground to Authoritarian	4<=Polity_smooth<=16	Polity_smooth<4

Observations in the Master Data Set

The master data set consisted of 4,257 observations in the form of country-years for the time span 1972-2000. The Polity IV Project served as the key source of data for regime type rating that was used to define regime-failure type, however the Polity IV Project's coding scheme for transitional or unstable periods was refined for the purposes of this study as will be discussed below. The Polity IV Project data is limited to countries that have a population of at least 500,000 and are considered independent sovereign

states.[1] The scope of the master data set was necessarily limited by these inclusion criteria. Observations in the master data set included countries that existed for only a portion of the period 1972-2000. In the survival analysis there were states that entered the study after 1972 such as the states that were previously republics of the former Soviet Union. The analysis also contained states that were right censored meaning that they ceased to exist and exited the survival analysis without failure. Examples are the USSR and Czechoslovakia. The list of countries with the years that they are included in the master data set is Appendix A. To get a sense of the variation in the number of countries, in 1972 there were a total of 136 countries, in 2000 a total of 160. While the total number of countries varied from year to year, the majority (75%) existed for the duration of the period 1972-2000.

Operationalizing Key Concepts: Regime Type

As noted above, the key variable used to define the four data sets is Polity_smooth. Since the interpretation of results of the survival analysis by regime-failure type is fundamentally based on how country-years were assigned to the three regime types, it is important to discuss how Polity_smooth was constructed and the validity of the data source, the Polity IV Project.[2]

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[1] Monty G. Marshall and Keith Jaggers, *Polity IV Project: Political Regime Characteristics and Transitions, 1800-1999, Data Set Users Manual* (University of Maryland: Integrated Network for Societal Conflict Research, 2000), 4-5, <www.bsos.umd.edu/cidcm/inscr/polity/showFiles.asp> (14 June 2002).
[2] For detailed information on the Polity IV Project and available data, see the *Polity IV Project: Political Regime Characteristics and Transitions, 1800-2000* website at www.cidcm.umd.edu/inscr/polity/ (10 April 2003).

The Polity IV Project contains annual polity (what I call regime type) ratings for

independent countries with a population of at least 500,000 for the years 1800-2000. The

Polity Project has evolved from the initial Polity I data base which was constructed by

one individual through several subsequent data sets with increasing sophistication in

coding procedures, a larger number of people involved in the coding process, and

increasingly sophisticated reliability tests to include establishing inter-coder reliability

checks in 2000.[3] The Polity IV Project directors Monty G. Marshall and Keith Jaggers

provide a detailed description of the reliability checks in their Polity IV Project

Codebook that is readily available on their website. In overall assessment, Marshall and

Jaggers stated that the "polity scores are considered reasonably and reliably accurate

within one or two points along the twenty-point POLITY (DEMOC-AUTOC) scale"[4]

Marshall, Gurr, Davenport, and Jaggers (2002) argued that the variable POLITY has

performed consistently "in comparison to and in combination with other measures of

political conditions and behaviors."[5] In considering the reliability (consistency over

time) and validity (accurately measures the concept) of polity ratings, most independent

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[3] Comprehensive details on the historical development of the Polity data sets can be found in Monty G. Marshall and Keith Jaggers, *Polity IV Project: Political Regime Characteristics and Transitions, 1800-1999, Data Set Users Manual*. Additionally there are numerous articles by researchers involved in the Polity Project that discuss particular historical evolutions in the data sets. For example see Ted Robert Gurr, Keith Jaggers, and Will H. Moore, "The Transformation of the Western State: The Growth of Democracy, Autocracy, and State Power since 1880," in Ed. Alex Inkeles, *On Measuring Democracy: Its Consequences and Concomitants* (New Brunswick, NJ: Transaction Publishers, 1991), 69-104; or Keith Jaggers and Ted Robert Gurr, "Tracking Democracy's Third Wave with the Polity III Data," *Journal of Peace Research* 32, no 4 (November 1995), 469-482.
[4] Monty G. Marshall and Keith Jaggers, *Polity IV Project: Political Regime Characteristics and Transitions, 1800-1999, Data Set Users Manual*.
[5] Monty G. Marshall, Ted Robert Gurr, Christian Davenport, and Keith Jaggers, "Polity IV, 1800-1999: Comments on Munck and Verkuilen," *Comparative Political Studies* 35, no 1 (February 2002), 44.

scholars who have analyzed various polity rating schemes and data bases give the Polity

IV Project high marks in comparison to other measures that are available.[6]

In the Polity IV data set, the variables AUTOC and DEMOC are eleven-point

composite measures, ranging from 0 to 10. Marshall and Jaggers state that they

conceptualize institutionalized democracy as consisting of three interdependent elements:

"One is the presence of institutions and procedures through which citizens can express

effective preferences about alternative policies and leaders. Second is the existence of

institutionalized constraints on the exercise of power by the executive. Third is the

guarantee of civil liberties to all citizens in their daily lives and in acts of participation."[7]

The variable DEMOC includes coded data on the first two elements, but Marshall and

Jaggers specifically note that they do not include coded data on the third element, civil

liberties.[8] DEMOC is a composite measure based on weighted scores for

competitiveness of executive recruitment, openness of executive recruitment, constraint

on the chief executive, and competitiveness of political participation. Jaggers and

Marshall note, "a mature and internally coherent democracy, for example, might be

operationally defined as one in which (a) political participation is fully competitive, (b)

executive recruitment is elective, and (c) constraints on the chief executive are

substantial."[9] The variable AUTOC is composed of weighted scores for competitiveness

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[6] See for example Gerardo L. Munck and Jay Verkuilen, "Conceptualizing and Measuring Democracy," *Comparative Political Studies* 35, no 1 (February 2002), 25; and Monty G. Marshall, Ted Robert Gurr, Christian Davenport, and Keith Jaggers, "Polity IV, 1800-1999: Comments on Munck and Verkuilen," *Comparative Political Studies* 35, no 1 (February 2002), 44.

[7] Monty G. Marshall and Keith Jaggers, *Polity IV Project: Political Regime Characteristics and Transitions, 1800-1999, Data Set Users Manual.*

[8] Monty G. Marshall and Keith Jaggers, *Polity IV Project: Political Regime Characteristics and Transitions, 1800-1999, Data Set Users Manual.*

[9] Monty G. Marshall and Keith Jaggers, *Polity IV Project: Political Regime Characteristics and Transitions, 1800-1999, Data Set Users Manual.*

of executive recruitment, openness of executive recruitment, constraints on the chief executive, regulation of participation, and competitiveness of participation.[10] The Polity IV Project computes the POLITY index by subtracting the value of their measure for autocracy (AUTOC) from their score for democracy (DEMOC). The variable POLITY is thus a twenty-one point scale ranging from -10 to +10.

The POLITY variable also contains "standardized authority codes" of -66 (authority interruption), -77 (authority collapse), and -88 (transition) for those years in which events within a country such as civil war or foreign domination precluded an assessment of the polity character of its central government. The Polity IV variable POLITY2 is based on POLITY but with the standardized authority codes converted such that -66 is coded as a missing value, -77 is coded 0, and -88 is prorated across the span of transition.

My variable Polity_smooth was constructed using POLITY2 as its basis; however, all conversions of the standardized authority codes were reviewed. As noted earlier, I was interested in the characterization of regime type, not the characterization of specific central governments. In some cases, the standard Polity IV conversion of the authority codes did not accurately represent the continuity of regime type but rather reflected changeovers in specific governments. This was particularly true in the assigning of the "neutral" code of 0 for the interregnum value of -77. In several cases this "neutral" value overly inflated the continuous nature of the regime type, for example when there was a transition from a highly authoritarian government to another highly

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[10] Monty G. Marshall and Keith Jaggers, *Polity IV Project: Political Regime Characteristics and Transitions, 1800-1999, Data Set Users Manual.*

authoritarian government. In the Polity IV country-years used in my data set there were

179 standardized authority codes of which 28 were -66 (authority interruption), 71 were

-77 (authority collapse), and 80 were -88 (transition). In most cases these codes were

handled in the manner suggested by the Polity IV Project,[11] however, several

modifications were made when these blanket conversion rules were deemed inaccurate

for my purposes. The details and rationale for each modification are listed in Appendix

B. After review and modification, Polity_smooth retained 15 missing values. These

country-years were Bosnia-Herzegovina 1995-2000 and Cambodia 1979-1987.

Polity_smooth was also adjusted by adding 10 to every POLITY2 rectified score, which

maintains the required relative distinctions but converts the range of values to 0 (strongly

authoritarian) through 20 (strongly democratic) for ease of interpretation. The use of

Polity_smooth to delineate regime types resulted in the distribution of country-years

shown in the table below.

TABLE 2-2
Distribution of Country-Years by Regime Type Based on Polity_smooth

Regime Type	Number (Percent) of Country-Years
Consolidated Democracy	1,663 (39%)
Consolidated Authoritarian	1,397 (33%)
Middle Ground	1,182 (28%)

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[11] Monty G. Marshall, Conversion *of Polity IV Standardized Authority Codes,* 4 March 2002, <www.cidcm.umd.edu/inscr/polity/convert.htm> (21 February 2003).

Operationalizing Key Concepts: US Military Engagement

The concept of US military engagement through US military contacts was operationalized using five observable measures: (1) participation by the country's military in US military education and training programs, (2) US military presence in the country, (3) member of a security alliance with the United States, (4) recipient of US military assistance, and (5) recipient of US military sales deliveries. The rationale for each conceptualization was presented in depth in Chapter One. In this chapter I provide information on how each US military engagement indicator was constructed and the data sources that I used.

International Military Education and Training Participation: IMETyesno

The first operationalization focuses on US military-to-military contacts through US military education and training programs requiring attendance by foreign military personnel in the United States. The variable IMETyesno serves as the indicator of such participation. It is coded 1 for country-years in which a country participated, 0 otherwise. Although the final variable ended up as dichotomous, it was constructed from two other measures to provide the best indication of International Military Education and Training (IMET) participation. This was required because, as the following discussion will highlight, both of the component measures were not as complete as desired, but when considered together they formed an excellent indicator.

The first component measure used to construct IMETyesno was US government country-year specific funding for International Military and Education Training (IMET) programs. IMET is the US government's primary program promoting contacts between

foreign military officers and their US counterparts. The IMET program provides annual

grant funding to countries in order that they may send military-related personnel to the

United States for various training and education opportunities within US military

institutions. The source for IMET funding information was the United States Agency for

International Development (USAID).[12] It should be noted that not all countries have

equal opportunity to receive IMET grants. US law prohibited several countries from

receiving either direct or indirect IMET funding. In fiscal year 2002, Cuba, Iraq, Libya,

North Korea, Iran, Sudan, and Syria were all excluded by act of Congress.[13]

A serious problem arises in using only IMET funding as the sole measure because

wealthier states might also purchase school attendance through Foreign Military Sales

(FMS) apart from the IMET grant program. Of particular note in this category are

countries such as Saudi Arabia and Kuwait as well as countries such as Australia and the

United Kingdom. Cope (1995) noted that between 1988-1994, over 50 percent of the

annual total of international military student spaces for the Army were funded by FMS.[14]

The inability to account for these very relevant wealthy countries is a very serious

weakness in using solely IMET funding as an indicator of IMET participation.

The second component measure used to construct IMETyesno was professional

military education (PME) attendance data collected by scholars Douglas Gibler and

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[12] United States Agency for International Development (USAID), *U.S. Overseas Loans and Grants, Obligations and Loan Authorizations July 1, 1945 - September 30,* 2000, commonly known as *The Greenbook,* available on-line at http://qesdb.cdie.org/gbk/index.html.

[13] Kenneth W. Martin, "Fiscal Year 2002 Security Assistance Legislation," *DISAM Journal* 24, no 2 (Winter 2001-2002), 27 and 29.

[14] John A. Cope, *International Military Education and Training: An Assessment,* McNair Paper 44 (Washington, DC: National Defense University, Institute for National Strategic Studies, 1995), 8.

Tomislav Ruby.[15]   Professional military education schools are the premier educational institutions within the active duty US military. Attendance for military officers is decided through a special selection process. The more senior level PME institutes such as the war colleges and staff colleges are generally very selective. The US military officers who earn attendance opportunities are in the middle to late years of their military career and are considered highly promotable.

PME institutes such as the staff and war colleges are arguably the most influential of the IMET funded educational exchanges in terms of military engagement for at least two reasons. First, the foreign military officers selected to attend are also generally mid to high level and considered highly promotable in their home countries. Such military officers are more likely to have a significant effect on the politics of their home countries. Second, attendance at a staff or war college in the United States is a year long experience providing greater exposure to US norms, values, and way of life than some of the shorter duration IMET schools.

Gibler and Ruby collected attendance data on the number of international officers attending the Air Command and Staff College, Air War College, Army Command and General Staff College, Army War College, Industrial College of the Armed Forces, and National War College by country by year from 1950-1999. While this is a useful cross-section of the majority of US elite military schools, it should be noted that the data does not include information on any Naval or Marine Corps schools, nor other institutes funded under IMET. Nevertheless the data are very helpful in identifying countries

[15] Douglas M. Gibler and Tomislav Z. Ruby, "Democratizing through the Military: The United States Professional Military Education of Foreign Officers, 1950-1999," unpublished manuscript of 9 May 2002, Department of Political Science, University of Kentucky.

participating in IMET that did not receive IMET funding but purchased attendance through FMS.

IMETyesno was coded 1 if either IMET funding was received in a country-year or if at least one officer was identified as participating in a professional military education program as identified by Gibler and Ruby. In all other cases, IMETyesno was coded 0. In the master data set 2,595 (61%) country-years were coded 1; 1,662 (39%) country-years were coded 0.

Security Ally of the United States: Ally

The second operationalization of US military engagement through military contacts is membership in a security alliance with the United States. Such mutual membership necessitates a high level of military-to-military interaction as well as military-to-political interaction between the United States and its allies. For this study an ally was defined as a country that had a formal written security agreement since 1945 with the United States. Coding was based on Charles L. Phillips and Alan Axelrod's *Encyclopedia of Historical Treaties and Alliances: From the 1920s to the Present*.[16] Detailed coding and treaty information is listed in Appendix C. Ally was coded 1 for any country-year in which a country was a member of a formal security agreement with the United States; 0 otherwise. In the master data set 1,203 (28%) of country-years were coded 1, and 3,054 (72%) were coded 0.

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[16] Charles L. Phillips and Alan Axelrod, *Encyclopedia of Historical Treaties and Alliances: From the 1920s to the Present*, New York: Facts on File, Inc., 2001.

US Military Presence in Country: USmilyesno

The third operationalization of US military engagement through military-to-military contacts is the level of permanent presence of US military troops stationed in a country. It might reasonably be argued that the presence of US military troops stationed in a country would also entail interaction between the military commanders and local military and political elites as well as between troops and local populations. Exchange of information about each country's respective norms, beliefs, and perspectives would be very likely. Level of US military troops stationed overseas by country by year was obtained from the US Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports. A detailed citation is Appendix D.

The variable US_mil_overseas contains the number of active-duty US military personnel both on land and afloat stationed in a country by year. It varies from 0 to 256,391 personnel. From the base information several variables were constructed. USmilseas_norm was created using US_mil_overseas normalized by the total population of a country. It varied from 0 to 0.0161442, with a mean of 0.0001711 and standard deviation of 0.0010926. USMil_normforeignMil was created using US_mil_overseas normalized by the size of the home country's military. It varied from 0 to 5.831666 with a mean of 0.0179585 and standard deviation of 0.1326606. Both of these normalized continuous variables were highly skewed to 0. An indicator variable USmilyesno was also created. USmilyesno was coded 1 if there were more than 10 US military personnel stationed in a country; 0 otherwise. The exclusion of 10 US military personnel from the indicator was intended to eliminate consideration of US military personnel assigned

solely as US embassy staff. In the master data set 1,996 (47%) country-years were coded 1 for USmilyesno, and 2,257 (53%) country-years were coded 0.

Recipient of US Military Aid: milaidyesno

The fourth operationalization of US military engagement is status as a recipient of US military financial aid. Data on US military assistance in the form of loans and grants was obtained from the United States Agency for International Development (USAID).[17] United States military assistance in any one country-year varied between 0 and 4 billion US dollars. USmilasst_norm was created to normalize the amount of assistance received by the size of a country's economy. It was constructed by dividing the amount of US military assistance that a country received by the current GDP of the country. USmilasst_norm varied between 0 and 0.8320678 with a mean of .0016567 and standard deviation of 0.0180724. It is highly skewed to zero. An indicator variable milaidyesno was constructed and coded 1 if a country received US military assistance in a country-year, and coded 0 otherwise. In the master data set 1,963 (46%) of country-years were coded 1, and 2,290 (54%) were coded 0.

Recipient of US Military Sales Deliveries: milsalesyesno

The fifth and final operationalization of US military engagement is influence exerted through the process of acquiring US military technology and equipment,

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[17] The source for data for 1972-1999 was: United States Agency for International Development (USAID), *U.S. Overseas Loans and Grants, Obligations and Loan Authorizations July 1, 1945 - September 30,* 2000, commonly known as *The Greenbook,* available on-line at http://qesdb.cdie.org/gbk/index.html; and the source for data for the year 2000 was: USAID, *FY 2000 Economic and Military Assistance - Actual Appropriation, Table 2C,* <www.usaid.gov/pubs/bj2001/table2c.pdf> (11 October 2002).

specifically through the purchase of US military hardware, maintenance contracts,

technical schooling, in-country training and similar items that come under the auspices of

US military sales deliveries. Data on US military sales deliveries was obtained from the

Defense Security and Cooperation Agency and the US Census Bureau. Detailed coding

information and a listing of sources for specific country-years is contained in Appendix E.

US military sales deliveries by country-year varied from 0 to 6.01 billion US

dollars, with amounts very highly skewed toward 0. From the base information

USmil_sales_norm was constructed by dividing US military sales delivery amounts by

current GDP for each country-year as a measure of military sales deliveries normalized

by the size of a country's economy. USmil_sales_norm varied from 0 to 0.2156045 with

a mean of 0.0011948 and standard deviation of 0.0061231. It was highly skewed to zero.

An indicator variable milsalesyesno was constructed and coded 1 if a country received

US military sales deliveries in a country-year, and coded 0 otherwise. In the master data

set 1,697 (40%) of country-years were coded 1, and 2,560 (60%) were coded 0.

Summary and Correlation of the Five US Military Engagement Indicator Measures

The five US military engagement indicator measures discussed above are used

extensively in the analyses to follow. Thus, at this point it is useful to summarize and

review their statistical characteristics. Shown in the table below is the distribution for

each of the five military engagement indicator variables.

TABLE 2-3
Summary of Distribution of Military Engagement Indicator Variables

Variable	Coded 1	Coded 0
IMETyesno	2,595 (61%)	1,662 (39%)
USmilyesno	1,996 (47%)	2,257 (53%)
Ally	1,203 (28%)	3,054 (72%)
milaidyesno	1,963 (46%)	2,290 (54%)
milsalesyesno	1,697 (40%)	2,560 (60%)

It might be thought that there would be a high correlation between these five

indicator variables, yet such was not necessarily the case as can be seen in the

correlations in the table below.

TABLE 2-4
Correlation of Military Engagement Indicator Variables

	IMETyesno	USmilyesno	Ally	milaidyesno	milsalesyesno
IMETyesno	1.0000				
USmilyesno	0.3988	1.0000			
Ally	0.2751	0.4672	1.0000		
milaidyesno	0.7130	0.1600	0.0678	1.0000	
milsalesyesno	0.5174	0.5055	0.4190	0.2280	1.0000

Remaining Variables and Data Sources of Interest

The remaining variables used in this study were previously identified significant

factors associated with democratization as discussed in Chapter One. Besides the

substantive variables used directly in the analyses presented in the following chapters,

there were also other very important variables used to construct the substantive measures

but that do not themselves appear in the analysis. For example, I had previously

mentioned that certain key independent variables were normalized using data on a country's gross domestic product. My measure of GDP in current US dollars does not appear in the analysis, but was used to construct other measures that do appear. It is also very important to understand the sources, validity, and accuracy of the data used to construct variables even though these secondary or indirect variables do not directly appear in the discussions to follow. Such information is key to accessing the significance and validity of the variables that do directly appear. Thus, the following descriptions of the remaining variables in the master data set are divided into two groups. First, I discuss the substantive variables, both dichotomous and continuous, used directly in the analysis undertaken in this study. Second, I describe the nonsubstantive variables that were used to construct or normalize the substantive variables. Summary data for the substantive variables follows at the end of this section.

Substantive Variables

Level of Economic Development: GDP_PPP_per_capita and GDPyesno

As mentioned in Chapter One, level of economic development is one of the primary factors previously identified as significantly associated with democratization. A country's gross domestic product measured in purchasing power parity (GDP-PPP) in US dollars forms the basis of my two measures of economic level of development: GDP_PPP_per_capita, a continuous variable, and GDPyesno, an indicator variable.

Source data for GDP-PPP was primarily obtained from the *Penn World Tables Version 6.1*. Values missing from this data source were filled by successively merging GDP-PPP data from (1) the World Bank obtained through the *UN Common Database*, (2)

the Central Intelligence Agency *World Factbooks*, and (3) *Penn World Tables Version 5.6*; merged in that order. Several remaining missing values were interpolated where such interpolation was deemed reasonable. Detailed citations and variable construction information is contained in Appendix F.

From the GDP-PPP data, GDP_PPP_per_capita was calculated by dividing GDP-PPP by total population for every country-year. Next, the indicator variable GDPyesno was specifically constructed for the Kaplan-Meier analysis discussed in the next chapter. GDPyesno was coded 1 for any country-year in which GDP_PPP_per_capita was greater than $4,000, an often-referenced level in democratization studies particularly as a key factor in the consolidation of democracy. For example, Przeworski et al. (2000) found that "the probability that a democracy would die in a country with an income above $4,000 was almost zero."[18]

Soviet Foreign Assistance: soviet_foreign_asst

While this study focused on influence exerted by the United States and its military on democratization, it is undeniable that the Soviet Union might also have played a significant role. The variable soviet_foreign_asst attempts to capture some of that influence. Since different countries experienced the Cold War in different manners based on their interaction with both the Soviet Union and the United States, I thought that a generally applied "Cold War dummy variable" was inadequate. My variable soviet_foreign_asst is an indicator variable coded 1 for the years 1972-1990 if a country

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[18] Adam Przeworski, Michael E. Alvarez, José Antonio Cheibub, and Fernando Limongi, *Democracy and Development: Political Institutions and Well-Being in the World, 1950-1990*, Cambridge: Cambridge University Press, 2000, 98.

received significant foreign aid from the Soviet Union, 0 otherwise. Data for the coding decision was obtained from various issues of the *Handbook of Economic Statistics* published by the US Central Intelligence Agency's Directorate of Intelligence. The detailed citations and a listing of countries coded 1 are in Appendix G.

Because the data lacked precision I have only used an indicator variable rather than attempting to construct a continuous measure. Admittedly some countries received significantly more Soviet aid than did others and were probably influenced more greatly. While the measure that I have constructed is limited, it is nevertheless important to try to capture the hegemonic influence exerted by the Soviet Union. This is an improvement over solely controlling for the years of the Cold War.

US Economic Assistance: USeconaid_norm and econaid_yesno

Data on US economic assistance served as a control measure to try to separate the influence of both IMET spending and US military assistance from overall US economic assistance. The data on US economic assistance in the form of loans and grants by country by year was obtained from USAID.[19] From the base information USeconaid_norm was constructed by dividing US economic assistance amounts by current GDP for each country-year to obtain a measure of US economic assistance normalized by the size of a country's economy. An indicator variable econaid_yesno was

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[19] The source for US Economic Assistance Loans and Grants data for 1972-1999 was the United States Agency for International Development (USAID), *U.S. Overseas Loans and Grants, Obligations and Loan Authorizations July 1, 1945 - September 30,* 2000, commonly known as *The Greenbook*, available on-line at http://qesdb.cdie.org/gbk/index.html; and the source for data for the year 2000 was: United States Agency for International Development (USAID), *FY 2000 Economic and Military Assistance - Actual Appropriation, Table 2C*, <www.usaid.gov/pubs/bj2001/table2c.pdf> (11 October 2002).

constructed and coded 1 if a country received US economic assistance in the form of loans or grants in a country-year, and coded 0 otherwise.

Trade Openness: open_i and open_i_yesno

It is generally believed that trade openness promotes liberalization and the expansion of the democratic zone of peace. First, it has been argued that trade openness brings absolute gains in the level of economic development for all involved; such economic well being supports the development of democracy. Second, it has been argued that a hegemonic state such as the United States promotes its own interests (one being the enlargement of the community of democratic states) and the economic welfare of the nations within its sphere of influence by enforcing and supporting trade openness amongst this group of states. Through such mechanisms it has been argued that trade openness supports democratic regimes and encourages democratization, or at least liberalization, in less democratic regimes. Joseph Grieco and John Ikenberry (2003) noted that international economic integration has significantly increased in the last two decades.[20] Concomitantly, the percentage of the world's countries that are democracies has also increased from 26 percent in 1972 to 52 percent in 2000,[21] lending associative evidence that trade openness may promote political liberalization.

Trade openness was operationalized and measured as the computation: (Exports+Imports)/current GDP for each country-year. The variable open_i was imputed using data from several sources: *Penn World Tables Version 6.1, Penn World Tables*

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[20] Joseph M. Grieco and G. John Ikenberry, *State Power and World Market: The International Political Economy*, New York, W.W. Norton, 2003, 209.
[21] These figures are based on my calculations for the variable world_dem_16 discussed later in this chapter.

Version 5.6, the World Bank's *World Development Indicators*, and from the United Nations. Missing values were interpolated. I did not construct the variable open_i; it was obtained from the Grieco new democracy data set and detailed citations can be found with this original source.[22]

Using the continuous variable open_i, an indicator variable was created. The variable open_i_yesno was coded 1 if open_i was greater than the median value of open_i; otherwise 0. The variable open_i varied from 1.82 to 439.02 with a median value of 60.72. The median value was chosen as open_i was highly skewed toward zero, making the mean value a poor coding decision rule. It should also be noted that the actual values of open_i have no theoretical meaning *per se*, rather, the values form a scale that allows some measure of comparison of trade openness between countries.

Ethnolinguistic Fractionalization: ELF, ELF_yesno, Ethnic_gp, ethnic_gp_yesno

Religious, linguistic, and ethnic diversity within a state have been argued to inhibit both development and democratization: the greater the heterogeneity the more difficult to maintain and consolidate democracy. The problem of how to accurately measure ethnolinguistic fractionalization has been the focus of numerous studies.[23] In my study two measures were chosen. First, the variable ELF (ethnolinguistic

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[22] Joseph M. Grieco, "A 'Powerful and Enlightened Nation': The United States and Democratic Durability Around the World, 1952-1998," 2003-forthcoming.

[23] See for example Daniel N. Posner, "Ethnic Fractionalization in Africa: How Should it be Measured? What Does it Explain About Economic Growth?" 25 March 2002, paper presented to the World Bank Development Research Group Seminar, 29 March 2000; James D. Fearon, "Ethnic Structure and Cultural Diversity around the World: A Cross-National Data Set on Ethnic Groups," 11 August 2002, paper presented at the Annual Meeting of the American Political Science Association, Boston, 29 August-1 September 2002; or, Macartan Humphreys, Daniel N. Posner, and Jeremy M. Weinstein, "Ethnic Identity, Collective Action, and Conflict: An Experimental Approach," paper presented at the Annual Meeting of the American Political Science Association, Boston, September 2002.

fractionalization) was constructed from the Philip Roeder (2002) ethnolinguistic

fractionalization measures that Roeder had constructed for the years 1961 and 1985.[24]

The ELF measure is the calculated probability that two randomly chosen people

within a country will be from different ethnic groups based on ethnic group size and

distribution of groups within the country. It varies from 0 to 1 with a score of 0

indicating a perfectly homogeneous population with heterogeneity increasing as the score

increases to 1. For the country-years in my study, the most homogenous country was

South Korea at 0.003; the most heterogeneous was Papua New Guinea at 0.984. The

Roeder measures for 1961 and 1985 served as the basis for my variable. I used these

base measures to interpolate values for the years between 1961 and 1985. These

interpolations are the value for my ELF measure for the years 1972 through 1985. For

the years 1986-2000 the Roeder ELF value for the year 1985 was used as a constant for

all years.

My second operationalization of ethnic diversity was the percentage of the

population that is of the largest ethnic group. James Fearon (2002) noted that ethnic

fractionalization measures tend to be "quite close" to measures of the population's share

of the largest ethnic group as an indicator of diversity.[25] Arguably the larger the primary

ethnic group the less diversity, or less possibility for continual internal divisiveness

within the country. Constructing this second measure of percentage of the population

that is of the largest ethnic group was research intensive. Two periods of time were

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[24] Philip G. Roeder, "Ethnolinguistic Fractionalization (ELF) Indices, 1961 and 1985," 16 February 2002, <weber.ucsd.edu\~proeder\elf.htm> (7 February 2003).

[25] James D. Fearon, "Ethnic Structure and Cultural Diversity around the World: A Cross-National Data Set on Ethnic Groups," 11 August 2002, paper presented at the Annual Meeting of the American Political Science Association, Boston, 29 August-1 September 2002, 19.

considered with research conducted to obtain data from roughly the late 1970's and another from the mid-to-late 1990's. The percentage figures from these periods were used as constants for a span of years; the first period for the years 1972-1985, and the second period for the years 1986-2000. The detailed listing of the multiple sources used for the variable is contained in Appendix H.

My two alternative measures, ELF and Ethnic_gp, were correlated at -0.8089. The negative sign indicating that the larger the percentage of the population that is of the dominant ethnic group the less ethnolinguistic diversity exists. Additionally two dichotomous indicator variables were created. The indicator ELF_yesno was coded 1 for any country-year in which the ELF score was less than 0.50; 0 otherwise. The indicator ethnic_gp_yesno was coded 1 for any country-year in which the largest ethnic group was greater than 50 percent of the total population; 0 otherwise.

Major Religions: Muslim, Christian, Hindu, Buddhist, Protestant, Catholic, and Orthodox

The master data set contains both a continuous variable and an indicator variable for each of seven major religious affiliations. Since these variables were constructed identically they will be discussed as a group rather than individually. The continuous variable is the percentage of a country's population that claims affiliation with that particular religion. The indicator variable was coded 1 if at least 50 percent of the total population was affiliated with the religion; 0 otherwise. The seven major religious affiliations on which data were collected are Muslim, Christian, Buddhist, Hindu, Protestant, Catholic, and Eastern Orthodox. The seven categories I chose were intended

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to offer a more conceptually parallel test of religious affiliation than several previous studies and also to retain the capability to compare my results with past studies that focused on Protestantism and Catholicism.

Similar to the construction of the ethnic group variable in the preceding section, constructing the religious variables required extensive research. Once again, two periods of time were considered with research conducted to obtain data from the late 1970's and another from the mid-to-late 1990's. The percentage figures for each of the religious affiliations from these periods were used as constants for a span of years; the first period for the years 1972-1985, and the second period for the years 1986-2000. Both the religious data and the ethnic data were collected simultaneously from many of the same sources. Appendix H also contains the detailed listing of sources with citations used for the religious affiliation data.

New Country in or after 1945: newc

Previous studies have indicated that new countries are more likely to have less stable governing systems and are less likely to be able to sustain and consolidate democratic reforms. The variable newc is an indicator variable coded 1 for every country-year in any country that became independent in or after 1945; 0 otherwise. Data for this variable was primarily drawn from Mike Alvarez, José Antonio Cheibub, Fernando Limongi, and Adam Przeworski, *Democracy and Development Data Set*, December 1999.[26] I reviewed their codings and changed several values after consulting

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[26] Adam Przeworski, Michael E. Alvarez, José Antonio Cheibub and Fernando Limongi, *Democracy and Development: Political Institutions and Material Well-Being in the World, 1950-1990*, their data set is available on-line at <http://pantheon.yale.edu/~jac236/Research.htm>.

supplemental data primarily from the US Central Intelligence Agency's *World Factbook 2002*.[27] The differences between my coding of newc and that of Alvarez et al. are that I considered East Germany, West Germany, South Korea, Sudan, and Yugoslavia (post-1990) to be new countries, coding them 1. I did not consider North Yemen to be a new country, coding it 0.

Former British Colony: britcol

Status as a former British colony has been shown in several previous studies to be positively associated with the ability to sustain democratic forms of government. The variable britcol is an indicator variable coded 1 for every year if the country was a British colony at any time after 1918, and coded 0 otherwise. The source for my coding decisions was the Institute for Commonwealth Studies Library, School of Advanced Study, University of London. A complete citation and a listing of countries coded 1 with their dates of independence is Appendix I. Although I compared my data with that of Alvarez et al. I did not use their data. The differences between my coding decisions and that of Alvarez et al. were that I considered Bangladesh and Somalia to be former British colonies, and I did not consider Ireland to be a former British colony.

Predominance of World Democracy: world_dem_16 and world_dem_yesno

The continuous variable world_dem_16 is the percentage of the world's countries that are democratic in a given year. The measure is based on the countries in the Polity

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[27] United States, Central Intelligence Agency, *World Factbook 2002*, <www.cia.gov/cia/publications/factbook/geos/bc.html> (29 November 2002).

IV data set with "democratic" defined as having a POLITY+10 score of 16 or greater during that year. During the time span 1972 through 2000 the percentage of the world's countries that were democratic ranged from 26 percent to 52 percent.

It should be noted that variation in this variable was not dependent on the choice of cut-off value chosen to define "democratic." The variable world_dem_11 was also created to compare a much more encompassing definition of "democratic." In this variable the POLITY+10 score of 11 or greater was used. In this operationalization, the definition "democratic" would be much more loose, generally meaning more liberal than authoritarian. Using this measure the percentage of the world's countries that were "democratic" ranged from 30 percent to 61 percent. Correlation between world_dem_16 and world_dem_11 was 0.996. The variable world_dem_11 was dropped in favor of using world_dem_16 because conceptually it better represented what is normally meant when we say that a country is "democratic." From the continuous variable world_dem_16 the indicator variable world_dem_yesno was created. It was coded 1 if the percentage was greater than 40; it was coded 0 otherwise. The value 40 was chosen as it represented roughly the halfway point between 26 and 52 percent. This halfway point occurs as the Cold War winds down: in 1990, 39 percent of countries were democratic; in 1991, 42 percent were democratic.

Shown in the two tables below are summary statistics for each of the substantive variables described above, providing the reader with an idea of the range and variance for each. The continuous variables are shown with the number of observations (i.e., country-years) for which there are coded values, the mean values, standard deviations, minimum values and maximum values. As these same summary statistics have less meaning for the

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indicator variables, these variables are listed separately with the number of country-years

coded either 1 or 0 and associated percentages for each.

TABLE 2-5
Summary Statistics for Substantive Continuous Variables

Variable Name	Obs	Mean	Std. Dev.	Min	Max
GDP_PPP_per_capita	4025	5075.371	5931.228	145.1752	49302.65
USeconaid_norm	4249	0.006148	0.013399	0	0.159882
open_i	3998	69.93857	44.92959	1.82	439.02
ELF	4257	0.460735	0.276227	0.003	0.984
Ethnic_gp	4249	0.667732	0.264474	0.03	1
% Muslim	4249	0.269316	0.378751	0	1
% Christian	4249	0.469383	0.390416	0	1
% Catholic	4249	0.282398	0.353026	0	1
% Protestant	4249	0.130115	0.224664	0	0.98
% Buddhist	4249	0.059096	0.204831	0	0.96
% Hindu	4249	0.02713	0.12016	0	0.9
% Orthodox	4235	0.047138	0.169035	0	0.98
world_dem_16	4257	0.370148	0.09495	0.26	0.52

TABLE 2-6
Summary of the Distribution of Substantive Indicator Variables

Indicator Variable	Coded 1		Coded 0	
GDPyesno	1,570	(39%)	2,455	(61%)
soviet_foreign_asst	999	(23%)	3,258	(77%)
econaid_yesno	2,772	(65%)	1,481	(35%)
open_i	2,000	(50%)	1,998	(50%)
ELF_yesno	2,329	(55%)	1,928	(45%)
ethnic_gp_yesno	2,933	(69%)	1,316	(31%)
Muslim_majority	1,084	(26%)	3,165	(74%)
Christian_majority	2,101	(49%)	2,148	(51%)
Catholic_majority	1,076	(25%)	3,173	(75%)
Protestant_majority	367	(9%)	3,882	(91%)
Buddhist_majority	277	(7%)	3,972	(93%)
Hindu_majority	87	(2%)	4,162	(98%)
Orthodox_majority	165	(4%)	4,070	(96%)
newc	2,410	(57%)	1,847	(43%)
britcol	1,099	(26%)	3,158	(74%)
world_dem_yesno	1,594	(37%)	2,663	(63%)

Nonsubstantive Variables

Finally I turn to the few nonsubstantive variables that were instrumental in the creation of their substantive counterparts. Gross domestic product (GDP) in current US dollars was used for normalizing several substantive variables such as US military sales and IMET spending for the size of a country's economy. A detailed listing of sources for this variable is Appendix J. Total population was also used to normalize substantive variables such as the measure of level of economic development operationalized as GDP_PPP_per_capita. A detailed list of sources for total population is Appendix K. A country's number of own military personnel and military expenditures are useful in normalizing military related data to the size of a particular country's own military forces, in terms of either personnel or expenditures. A detailed list of sources for non-US military personnel and expenditures is Appendix L.

Summary

In this chapter I have described the rationale and usefulness of my chosen statistical methodology, survival analysis, and how this particular technique might help us to understand better the nature of various influences on democratization for the three regime types addressed in this study: consolidated democracies, consolidated authoritarian states, and the middle ground of states. I also explained how the key concept used in my analyses, US military engagement, was operationalized using five measures of US military-to-military contacts. Finally, I identified the rationale, construction methods, and data sources for all variables contained in the master data set,

as well as how the master data set formed the basis for the four data sets to be used in the

bivariate and multivariate survival analyses that follow.

CHAPTER THREE

BIVARIATE ANALYSIS:
KAPLAN-MEIER ESTIMATION RESULTS

In the previous chapter I described the data to be used in the survival analyses. This entailed a detailed description of data sources as well as how measures and the four data sets were constructed. Now I proceed to specific survival analysis statistics and examine what they can tell us about the relationship of my independent variables to the nature of survival for each of the four regime-failure types.

In this chapter I describe the results of bivariate analyses using Kaplan-Meier estimates. First I begin with an explanation of Kaplan-Meier estimation, what it is, how it can help provide useful descriptive information for subsequent multivariate analyses, and its limitations. Second, I describe, both mathematically and using graphs, the survival function for each regime-failure type. I then analyze the individual effect of each of twenty-one dichotomized independent variables on the survival functions of the four regime-failure types. I conclude with a summary assessment of the overall bivariate significance of each of the independent variables on democratic and authoritarian trends.

All statistical calculations discussed in this chapter were done using STATA version 7.0. Most of the descriptive information in this chapter is provided in graph format because it is easier to understand conceptually and also easier to present the large quantity of results. Selected mathematical representations are included as appendices.

Bivariate Methodology: Kaplan-Meier Estimation

Survival analysis uses what is called a survival function as one of its key descriptive tools. Kaplan-Meier estimation is one analytic technique that can be used to estimate the survival function. The survival function can be displayed both mathematically and as a graph. In either format it describes the nature of survival for a group of individuals of interest. Kaplan-Meier estimates can also be used to provide initial, though limited, assessment of various influences on the probability of survival for the group. If we think back to the medical example in the previous chapter, this bivariate analysis tool might be used to assess whether there is a significant difference between the probability of survival for cancer patients who receive a particular therapy from the survival probability for those patients who do not receive it.

In this study, Kaplan-Meier estimates of the survival function were first used to provide an overview of the nature of survival for each of the four individual regime-failure types through time. For example, the data presented later in this chapter will show that, overall, countries in the consolidated democracy regime-failure type survive longer than countries in the consolidated authoritarian regime-failure type during the years of observation in this study. The nature of survival through time, such as whether a regime type is more likely to fail early in time or after a number of years have passed, can be assessed. I have also used Kaplan-Meier estimates to compare the influence of dichotomized variables on the overall survival functions of each regime-failure type. For example, it will be seen that for countries of the middle ground to democracy regime-failure type the presence of US military troops stationed in the country is significantly

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associated with a decreased chance of survival over time; that is, those middle ground countries with US military troops stationed within them are significantly more likely to "fail" to democracy, than their counterparts who do not house US troops.

The Kaplan-Meier estimate is nonparametric meaning that no assumptions need be made about underlying time dependent processes or the functional form that generates the survival function for the particular group of observations. That is, failure is not assumed to be any sort of mathematical function of time. As Mario Cleaves, William Gould, and Roberto Gutierrez (2002) noted: "nonparametric analysis follows the philosophy of letting the dataset speak for itself ..."[1] At any one point in the time span under consideration the Kaplan-Meier estimator provides the probability that those individuals who have survived to that point will continue to survive. It might be thought of as a running probability that an individual will survive past successive time periods based on the number of failures that have already occurred.

A significant limitation in using Kaplan-Meier estimation is that it cannot assess the simultaneous influence of a number of factors. The manner in which the estimator is calculated limits its use to very simple categorical or indicator variables. It cannot account for, or control for, the effects of other independent variables of interest except in a very rudimentary fashion. It allows comparisons of survival functions based on individuals receiving a therapy or not, or on having an inherent characteristic or not; but all such therapies and characteristics cannot be examined in the same model. Nor can we examine the level of influence of a continuous variable except by converting it to very

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[1] Mario A. Cleaves, William W. Gould, and Roberto G. Gutierrez, *An Introduction to Survival Analysis Using Stata*, College Station, Texas: Stata Corporation, 2002, 87.

simple categorical gradations. In the medical example, Kaplan-Meier estimation might help us to achieve a better understanding of the effect of a specific therapy, but it would not be able to control for other relevant factors such as the age or gender of the patient or previous medical history unless the initial data set was further broken down by these factors. This quickly becomes impractical to do as the number of cases available for analysis greatly diminishes.

To summarize, for this study Kaplan-Meier estimates were used as an initial descriptive tool. The methodology can provide useful information on the effect of the many factors operationalized by my independent variables, but with limitations. First, the continuous independent variables required simplification. This was done by converting the continuous variables to their dichotomous counterparts as discussed in the previous chapter. Second, Kaplan-Meier estimation does not model the survival function taking into account numerous factors of interest simultaneously. Information on one factor is gained but we cannot control for other factors. While the information that Kaplan-Meier estimation provides is limited, the estimates are nevertheless very useful in providing descriptive information on the nature of survival for the different regime-failure types as well as aiding modeling design in the subsequent multivariate analyses. Cox proportional hazard regression modeling, a multivariate analytic tool, is the primary analytic methodology of this study. It is the next step after the Kaplan-Meier bivariate analyses, and will be discussed in subsequent chapters.

The Nature of Survival for the Different Regime Types

During the years examined in this study, 1972-2000, the nature of survival varied

substantially between my four regime-failure types. In this section the survival function

of each regime-failure type is displayed in graph format and is accompanied by brief

summary information. More detailed descriptive data for each regime-failure type,

including per subject summary statistics, is included as Appendix Q.

The graph of the Kaplan-Meier survival function shows the running estimate or

probability that a subject will survive at the end of any one time span given the observed

number of subjects still at risk and the observed number of failures. Kaplan-Meier

estimates of survival probability form the vertical axis; survival time in years is on the

horizontal axis. In this study a subject is any country that meets the criteria for the

regime type until either failure or the end of the study. An observation is a single

country-year. The time span of this study was twenty-eight years.

Graphs 3-1 through 3-4 below show the overall survival function for each of the

four regime-failure types. Following the four graphs, there is a summary table showing

the mathematical probabilities for each regime-failure type in five-year increments.

These numbers were abstracted from Appendices M through P to provide a summary

table that the reader can use to match the precise probabilities of survival with the visual

depictions of the survival functions. The full mathematical representations of the

survival functions can be viewed in the appendices.

For the consolidated democracy regime-failure type the data set consisted of 83

subjects for which there were a total of 1,328 observations. There were 19 failures. As

can be seen below in the Graph 3-1, the probability of survival as a democratic regime remained relatively high throughout the duration of this study with most of the failures occurring in a regime's initial years.

Kaplan-Meier survival estimate
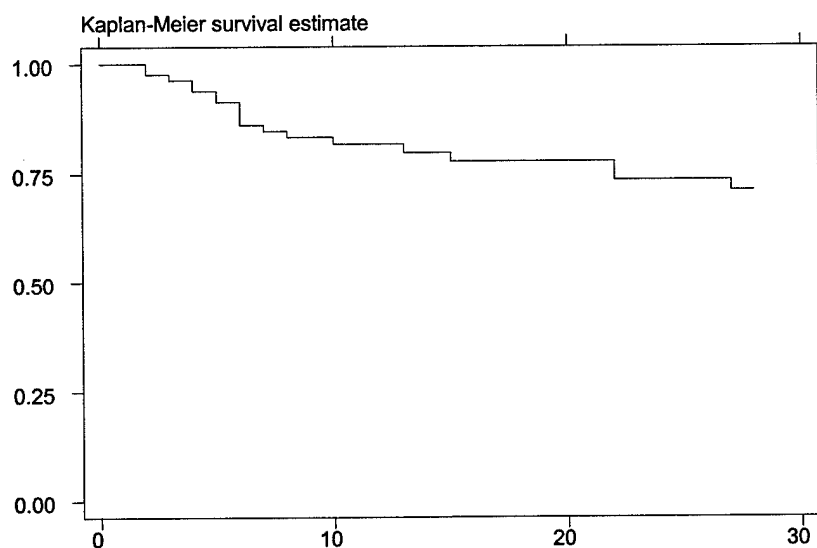
Graph 3-1: Consolidated Democracies Survival Function

For the consolidated authoritarian regime-failure type the data set consisted of 102 subjects for which there were a total of 1,653 observations. During this time there were 92 failures. As can be seen below in Graph 3-2, authoritarian regimes had greater difficulty surviving than their democratic counterparts. The effect of the end of the Cold War is visible just prior to the twentieth year of observation.

Kaplan-Meier survival estimate
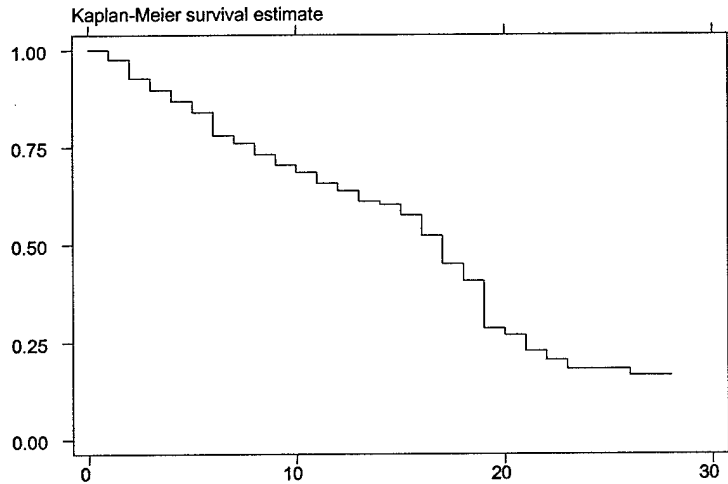
Graph 3-2: Consolidated Authoritarian Survival Function

For the middle ground to democracy regime-failure type the data set consisted of 109 subjects for which there were a total of 1,118 observations. During this time there were 47 failures. As can be seen below in the Graph 3-3, middle ground countries steadily "failed" to democracy but the decline in survival probability was not as pronounced as for the consolidated authoritarian regime-failure type subjects.

Kaplan-Meier survival estimate
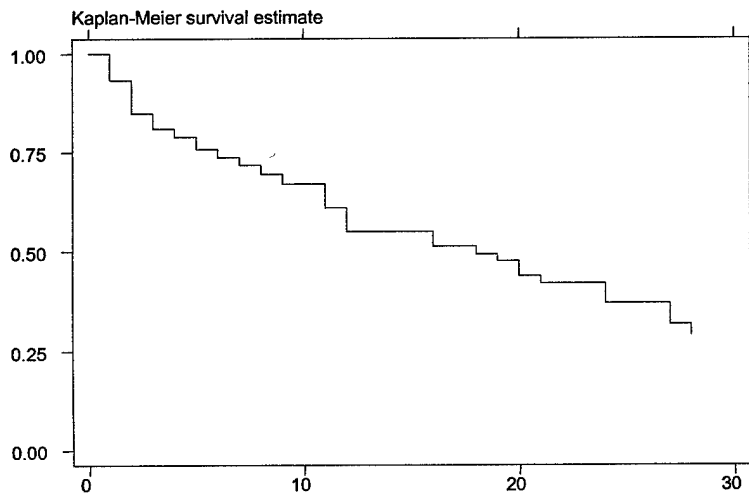
Graph 3-3: Middle Ground to Democracy Survival Function

For the middle ground to authoritarian regime-failure type the data set consisted of 108 subjects for which there were a total of 1,107 observations. During this time there were 36 failures. As can be seen below in the Graph 3-4, middle ground countries failed to authoritarianism more frequently in their initial years, but the decline in survival probability greatly lessened as the years passed.
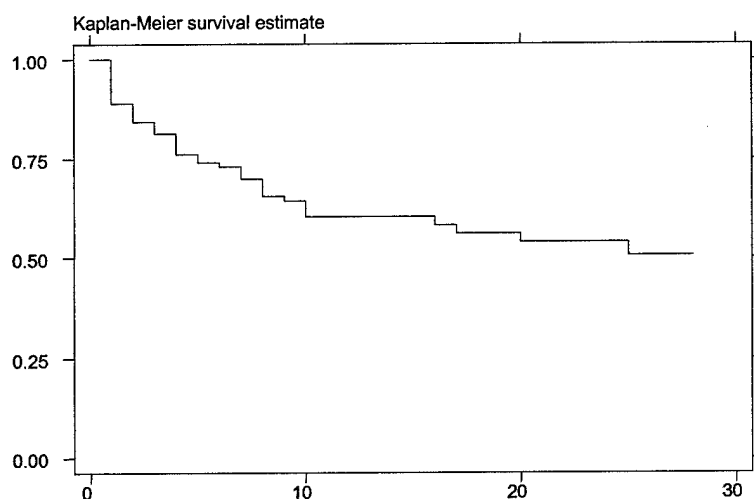
Graph 3-4: Middle Ground to Authoritarian Survival Function

To help compare how the survival functions vary, Table 3-1 below provides the Kaplan-Meier estimates for selected five-year increments by regime-failure type. These estimates were taken from the mathematical representations of the survival functions in Appendices M through P. Because the probability of survival means different things for different regime-failure types in terms of democratic trends, included are notations indicating whether a high or low probability of survival for that regime-failure type indicates a trend toward greater liberalization or greater authoritarianism. For example, a

lower survival rate for consolidated authoritarian regimes is an overall liberalizing trend

because fewer consolidated authoritarian states continue to survive.

TABLE 3-1
Kaplan-Meier Survival Estimates by Regime-Failure Type
by Years Survived

	5	10	15	20	25	28
Consolidated Democracy (higher=positive trend for democracy)	.91	.82	.78	.78	.73	.71
Consolidated Authoritarian (lower=positive trend for democracy)	.84	.68	.57	.27	.18	.16
Mid Ground to Democracy (lower=positive trend for democracy)	.76	.67	.55	.44	.37	.29
Mid Ground to Authoritarian (higher=positive trend for democracy)	.74	.60	.60	.54	.51	.51

The four regime-failure type survival functions depicted in Graphs 3-1 through 3-

4 and in the mathematical probabilities shown in Table 3-1 allow us to observe some

general trends in democratization over the time span of this study. First it can readily be

seen that consolidated democracies as a regime type have a high survival rate particularly

in comparison to their consolidated authoritarian counterparts. This can be seen by the

flat nature of the survival function in Graph 3-1 for consolidated democracies with

overall survival probability remaining above 70 percent for the duration of the time span.

This survival function appears very different from that for consolidated authoritarian

states. Graph 3-2 for consolidated authoritarian regimes shows a steady decline in

survival throughout the years under observation, with probability of survival dropping

below 20 percent for those regimes that had survived at least 20 years. While the

survival function for the consolidated authoritarian regimes declines rapidly as the Cold War ends, the survival probability for authoritarian states resumes a rather steady decline and then levels off for those states surviving beyond that point in time.

Graphs 3-1 and 3-2 indicate that consolidated authoritarian regime types have had consistently lower survival chances than their consolidated democratic counterparts. But what of the countries in the middle ground? The trend toward democratization can also be observed in the nature of failure and survival for the middle ground regime type although it is not as pronounced as for the consolidated authoritarian states. States in the middle ground "fail" to consolidated democracy at a rather consistent rate and have less chance of failing to authoritarianism the longer that they are able to survive. This can be observed by comparing the two graphs for middle ground regime type. The flat nature of the survival function after the ten-year point in Graph 3-4 for middle ground to authoritarian shows that as time passes middle ground regimes are more likely to survive as middle ground regimes rather than fail to authoritarianism. In contrast, Graph 3-3 for middle ground to democracy shows a rather consistent linearly declining survival function even after the initial ten-year point, indicating a rather consistent "failure" to consolidated democracy among middle ground regimes. Thus in the long-term middle ground countries appear more likely to "fail" to democracy than fail to authoritarianism. This can also be seen in the figures in Table 3-1, where the difference in survival probabilities is greatest for those regimes that have survived the longest. Thus, in considering the survival functions for all four regime-failure types, an overall trend toward greater liberalization or democratization is evident. The next step is to assess how this trend was influenced (or not) by the independent variables of interest in this study.

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Overview of the Bivariate Assessment of Independent Variables

In the next four sections of this chapter Kaplan-Meier estimation is used to examine how each of twenty-one dichotomized independent variables affected the survival probability of the different regime types. Each regime failure-type is discussed separately. Once again, graphs provide a very concise way to illustrate the differential influence on survival when a factor was present versus when the factor was absent. Because of the volume of information to be presented, I have only included graphs for those independent variables that were determined to have a statistically significant influence on the survival function.

Each assessment section for the four regime-failure types contains a table showing significance test results for all twenty-one independent variables. Following the table is commentary and graphs that show how each statistically significant independent variable affected the regime type's survival probability. Each graph consists of two survival functions. One of the survival functions depicts the effect of the factor under consideration (x=1) on the survival function; the other survival function depicts the affect of the absence of that influence (x=0). The twenty-one variables and the concepts that they represent are shown below in Table 3-2. All variables used in this analysis were dichotomous indicators, meaning that when the variable was coded 1 a certain characteristic or "therapy" existed while a coding of 0 indicates that the characteristic did not exist.

TABLE 3-2
Dichotomized Independent Variables and the Meaning of Each as an Indicator

Key Variables of Interest	The meaning of $x=1$
IMETyesno	Participant in IMET program
USmilyesno	US military troops are stationed in the country
Ally	Country has a formal security alliance with the US
milaidyesno	US military aid recipient
milsalesyesno	US military sales recipient
Other Variables	
soviet_foreign_asst	Recipient of Soviet foreign aid
econaid_yesno	Recipient of US economic aid
newc	New country since 1945
britcol	Former British colony
GDPyesno	GDP per capita is greater than 4,000 US dollars
open_i_yesno	Trade openness above median value
world_dem_yesno	World democracy is 40% of countries or greater
ELF_yesno	Ethnolinguistic fractionalization is less than 50%
ethnic_gp_yesno	Largest ethnic group is more than 50% of total population
muslim_majority_yesno	At least 50% of total population is Muslim
christian_majority_yesno	At least 50% of total population is Christian
catholic_majority_yesno	At least 50% of total population is Roman Catholic
protestant_majority_yesno	At least 50% of total population is Protestant
buddhist_majority_yesno	At least 50% of total population is Buddhist
hindu_majority_yesno	At least 50% of total population is Hindu
orthodox_majority_yesno	At least 50% of total population is Eastern Orthodox

The Log Rank test and Wilcoxon test were both used to determine whether the two survival functions generated for each dichotomized independent variable were statistically different from each other. Both tests compare the expected versus the observed number of failures at each potential failure time; however, the two tests differ in how comparisons are weighted. Biostatisticians Hosmer and Lemeshow (1999) explain that "the Wilcoxon test uses a weight equal to the size of the risk set and thus is more likely to detect early differences [in the two survival functions]. The Log Rank test uses

a weight equal to one and is more likely to detect later differences in the survivorship functions."[2]

Hosmer and Lemeshow recommend that both tests be used although they note that it is generally acceptable to use only the Log Rank test. In this study both test statistics were calculated to provide more information on how the two survival functions vary over time. As will be seen, there are several cases in which the Log Rank test detected significant difference while the Wilcoxon test detected no significant difference. As Hosmer and Lemeshow pointed out this may indicate an independent variable that has a significant effect in the long-term while its short and mid-term influence is less. In this study there was no case in which the Wilcoxon test indicated a significant difference in survival functions, but the Log Rank test did not.

We now proceed to the separate presentation of results for each of the four regime-failure types. Following the presentation of results, I conclude this chapter with an overall summary and assessment of the effects of the twenty-one independent variables on the survival probabilities of the different regime types and the implications of these results for democratic and authoritarian trends.

Consolidated Democracies: Bivariate Results

Shown below in Table 3-3 are the statistical significance test results for each independent variable for Kaplan-Meier estimation for the consolidated democracy regime-failure type. Listed is the calculated value of chi-square used to test the null

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[2] David W. Hosmer, Jr. and Stanley Lemeshow, *Applied Survival Analysis: Regression Modeling of Time to Event Data,* New York: John Wiley & Sons, 1999, 71.

hypothesis of no significant difference between the two calculated survival functions.

The number in parentheses is the probability value PR>chi-square indicating the level of significance. All probability values with a significance level equal to or less than 0.1 are highlighted. The graphs of the paired survival functions are only shown for these highlighted variables that were statistically significant at this level.

TABLE 3-3
Consolidated Democracy: Log Rank and Wilcoxon Significance Tests

	Log Rank Test	Wilcoxon Test
Key Variables of Interest		
IMET participant	0.03 (0.8642)	0.00 (0.9593)
US military stationed in country	6.53 (0.0118)	6.56 (0.0104)
Security alliance with US	3.33 (0.0662)	3.21 (0.0730)
US military aid recipient	2.79 (0.0946)	1.46 (0.2267)
US military sales recipient	0.94 (0.3315)	1.08 (0.2978)
Other Variables		
Soviet foreign assistance	30.11 (0.0000)	26.26 (0.0000)
US economic aid recipient	8.50 (0.0035)	9.73 (0.0018)
New country since 1945	8.66 (0.0019)	12.52 (0.0000)
Former British colony	7.73 (0.0054)	7.76 (0.0053)
GDP per capita greater than $4000	29.29 (0.0000)	31.90 (0.0000)
Trade openness	0.47 (0.4918)	0.54 (0.4608)
World democracy 40% or greater	3.55 (0.0596)	2.86 (0.0907)
ELF less than 50%	3.25 (0.0725)	1.27 (0.2599)
Largest ethnic group over 50%	5.13 (0.0236)	2.32 (0.1274)
Muslim majority	16.71 (0.0000)	16.58 (0.0000)
Christian majority	10.33 (0.0013)	9.62 (0.0019)
Catholic majority	0.51 (0.4754)	0.78 (0.3757)
Protestant majority	4.38 (0.0363)	3.96 (0.0466)
Buddhist majority	0.00 (0.9810)	0.00 (1.0000)
Hindu majority	0.71 (0.3990)	0.64 (0.4233)
Orthodox majority	0.02 (0.8877)	0.01 (0.9416)

The results in the above table show that fourteen of the independent variables were statistically significant, with four at the 10 percent significance level; three at the 5 percent level; and seven at the 1 percent level. These independent variables made a

significant difference in the nature of survival for consolidated democratic regime types. However, from the above statistics it is not possible to ascertain what kind of difference each variable made. Did it prolong or shorten the longevity of consolidated democracies? In order to make this assessment the graphs of the two survival functions for each variable were used. These fourteen graphs are shown beginning on the next page.

In examining and comparing these graphs, there are several useful relationships to point out. First, all differences that tested significant for both the Log Rank test and the Wilcoxon test were significant at the same significance levels, defined as 10 percent, 5 percent, or 1 percent. These can be reviewed in the above table. However, there were survival functions for three variables that tested significant only for the Log Rank test: US military aid recipient, ELF less than 0.50, and largest ethnic group greater than 50 percent of total population. It can be seen that the two survival functions in each of the graphs for these three variables do seem to show greater difference in later years than in earlier years. The graph representations for these three variables are noticeably different from that of the other variables where the two survival functions diverge much sooner.

Second, there is also a noticeable difference in the appearance of the paired survival functions in each graph as the significance level becomes more stringent. For example, in comparing the first two graphs the difference in survival functions is more pronounced for US military troops stationed in country than for security alliance with the United States. This is reflected in the significance levels: US military troops stationed in country meeting the 5 percent criteria and security alliance with the United States meeting the 10 percent criteria. And, if we compare the graphs for these two variables with the graphs for recipient of Soviet foreign assistance that meets the 1 percent criteria,

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the difference is even starker. The difference in significance levels will be further

discussed in the final section of this chapter in the assessment of the impact of the

variables on liberalizing or authoritarian trends. It is nevertheless interesting to see in the

graphs what the significance levels mean in terms of the substantive effect exerted on the

survival function by each variable.

Consolidated Democracies
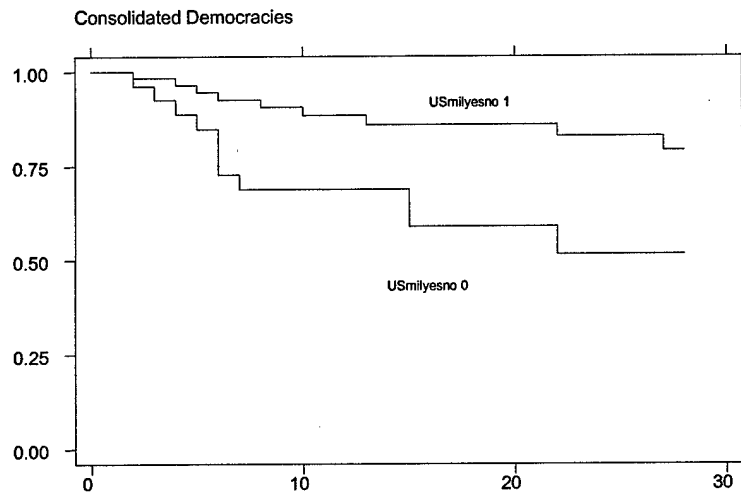
Graph 3-5: US Military Troops Stationed in Country

Consolidated Democracies
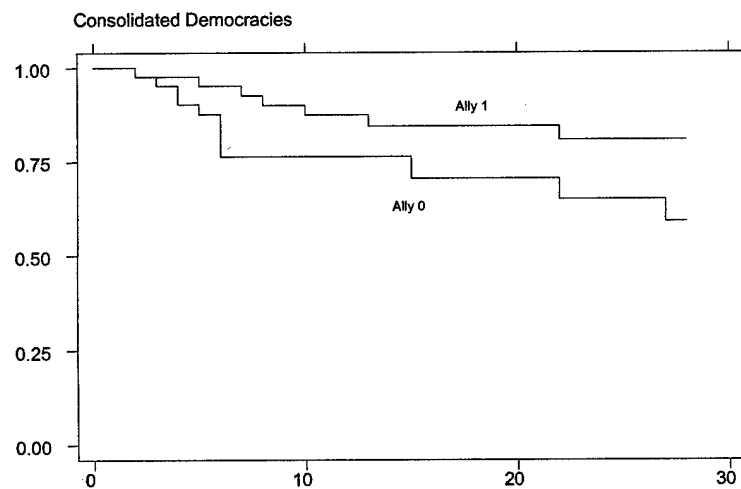
Graph 3-6: Security Alliance with the United States

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Consolidated Democracies
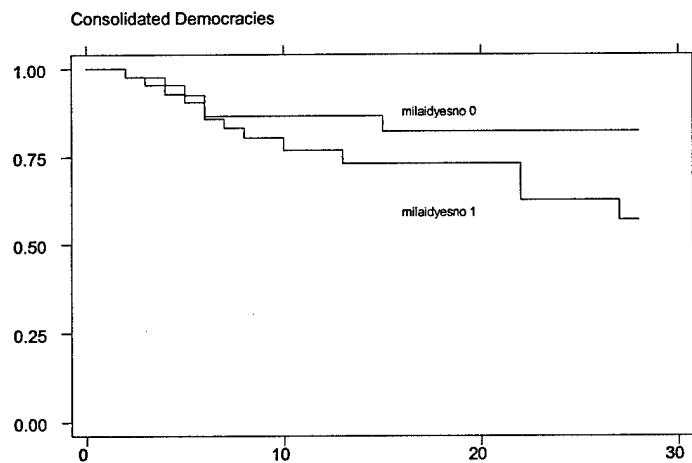
Graph 3-7: Recipient of US Military Aid

Consolidated Democracies
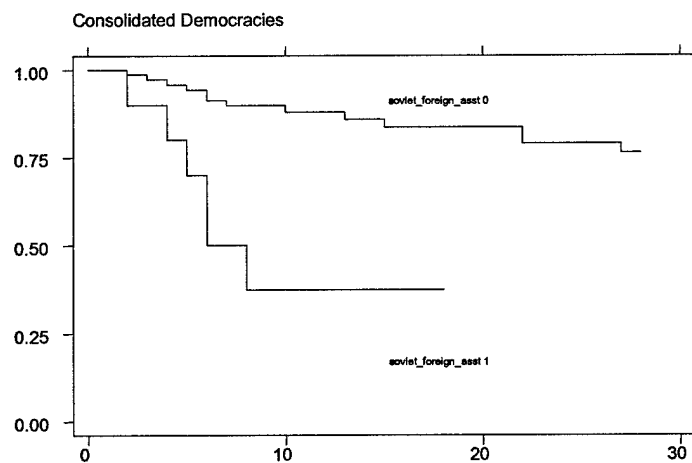
Graph 3-8: Recipient of Soviet Foreign Assistance

Consolidated Democracies
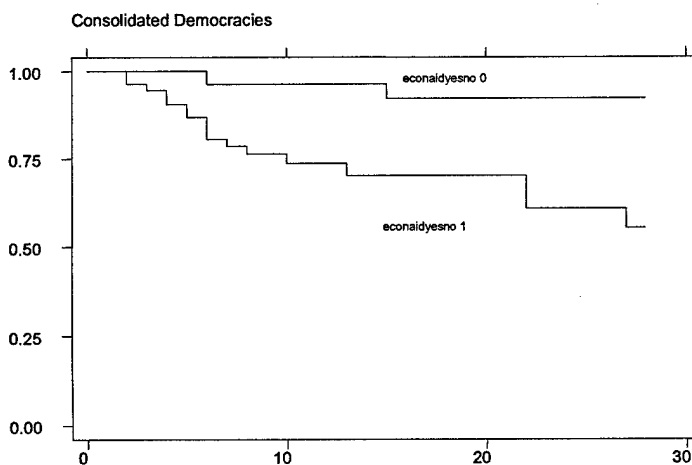
Graph 3-9: Recipient of US Economic Aid
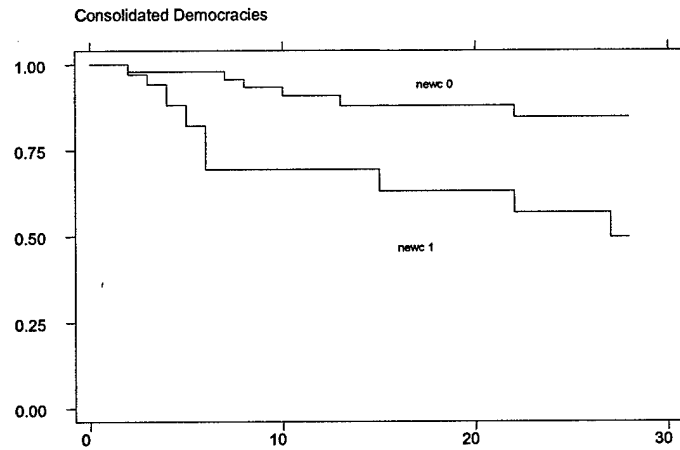
Graph 3-10: New Country in or after 1945
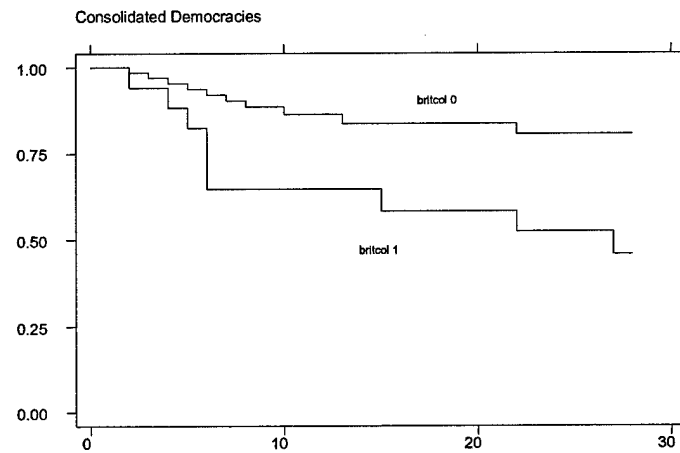
Graph 3-11: Former British Colony
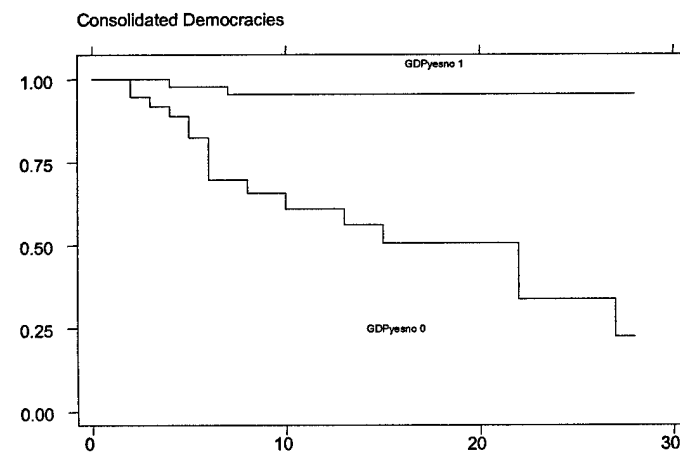
Graph 3-12: GDP per capita greater than $4,000

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Consolidated Democracies
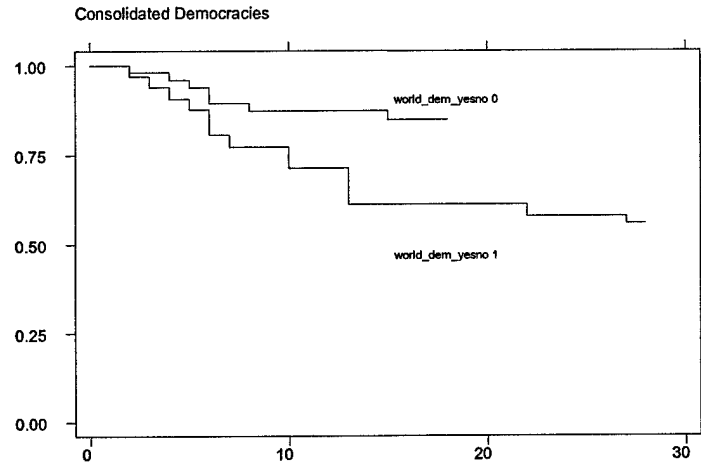
Graph 3-13: World Democracy greater than 40% of countries

Consolidated Democracies
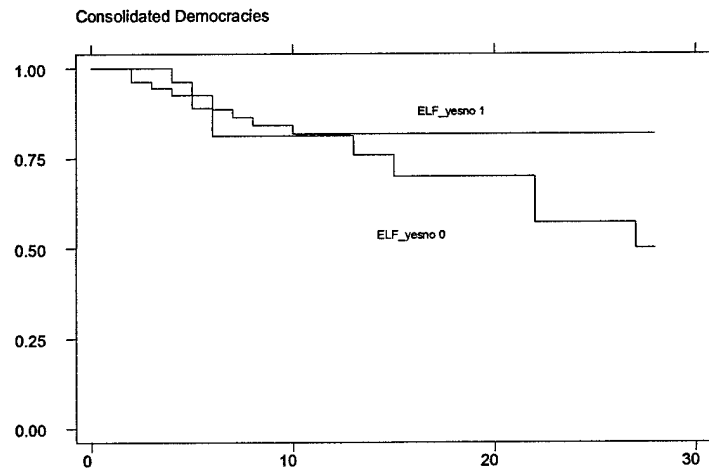
Graph 3-14: Ethnolinguistic Fractionalization less than 50%

Consolidated Democracies
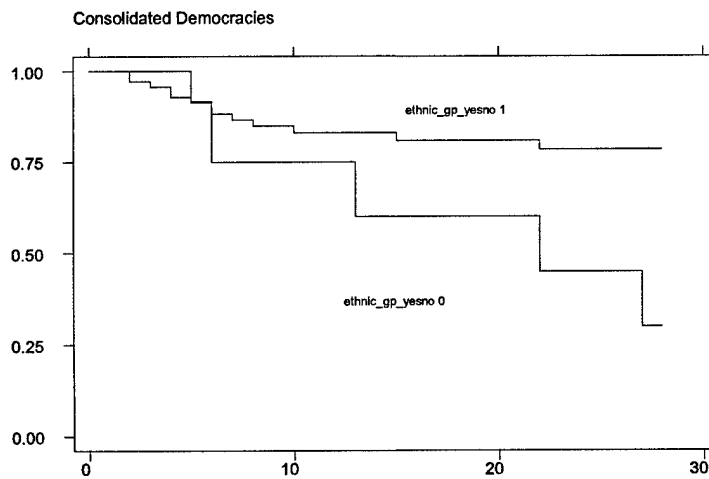
Graph 3-15: Largest Ethnic Group is more than 50% of the population

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Consolidated Democracies
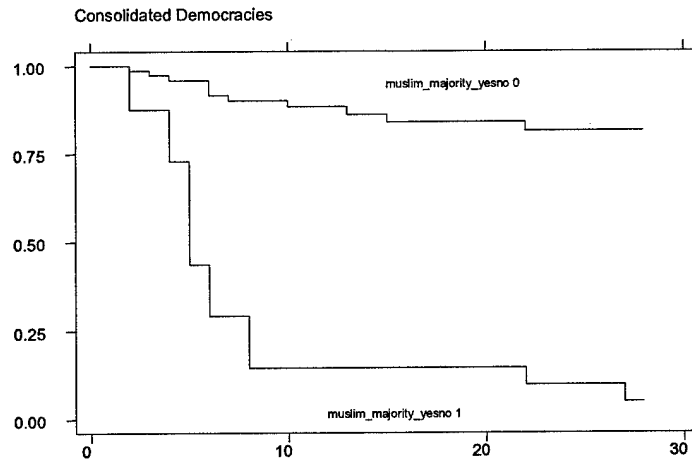
Graph 3-16: Muslims are at least 50% of the population

Consolidated Democracies
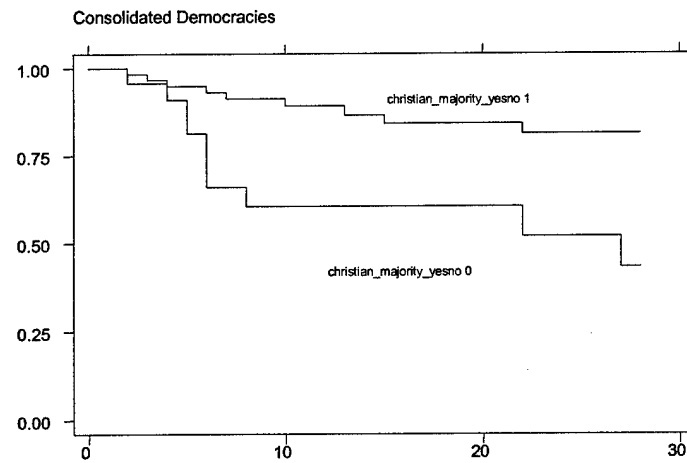
Graph 3-17: Christians are at least 50% of the population

Consolidated Democracies
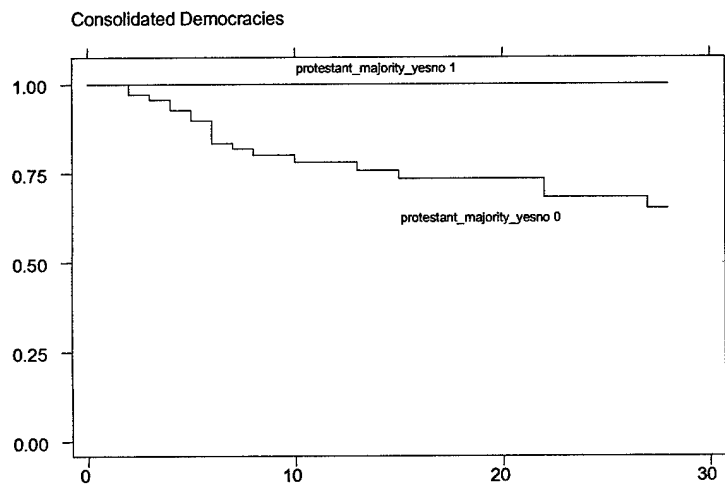
Graph 3-18: Protestants are at least 50% of the population

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The preceding graphs show in detail how the survival function for consolidated

democracies was altered when individual variable effects were incorporated into the

estimation. Table 3-4 below combines the information presented in Table 3-3 containing

the results of two significance tests and the information gained from viewing the graphs

of the two survival functions for each variable. It summarizes how each of the twenty-

one variables in their individual capacity affected the longevity of consolidated

democracies. This table along with its counterparts for other regime-failure types is the

basis upon which overall effects on democratization will be assessed based on the

Kaplan-Meier estimates in the final section of this chapter.

TABLE 3-4
Consolidated Democracy: Bivariate Effects on Survival

	Meaning of Bivariate Result
Key Variables of Interest	
IMETyesno	not significant
USmilyesno	with US military troops stationed, more likely to survive
Ally	when in a security alliance with the US, more likely to survive
milaidyesno	as a recipient of US military aid, more likely to fail
milsalesyesno	not significant
Other Variables	
soviet_foreign_asst	as a recipient of Soviet assistance, more likely to fail
econaid_yesno	as a recipient of US economic aid, more likely to fail
newc	new countries after 1945, more likely to fail
britcol	former British colonies, more likely to fail
GDPyesno	with GDP per capita > $4000, more likely to survive
open_i_yesno	not significant
world_dem_yesno	with 40% or higher world democracy, more likely to fail
ELF_yesno	with ELF < 50%, more likely to survive
ethnic_gp_yesno	when largest ethnic group > 50% of population, more likely to survive
muslim_majority_yesno	with at least 50% Muslim population, more likely to fail
christian_majority_yesno	with at least 50% Christian population, more likely to survive
catholic_majority_yesno	not significant
protestant_majority_yesno	with at least 50% Protestant population, more likely to survive
buddhist_majority_yesno	not significant
hindu_majority_yesno	not significant
orthodox_majority_yesno	not significant

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Consolidated Authoritarian Regimes: Bivariate Results

Shown below in Table 3-5 are the statistical significance test results for each

independent variable for Kaplan-Meier estimation for the consolidated authoritarian

regime-failure type.

TABLE 3-5
Consolidated Authoritarian: Log Rank and Wilcoxon Significance Tests

	Log Rank Test	Wilcoxon Test
Key Variables of Interest		
IMET participant		
US military stationed in country		
Security alliance with US		
US military aid recipient		
US military sales recipient		
Other Variables		
Soviet foreign assistance	0.20 (0.6578)	0.28 (0.5973)
US economic aid recipient		2.01 (0.1566)
New country since 1945		
Former British colony	0.14 (0.7086)	0.02 (0.8847)
GDP per capita greater than $4000	0.42 (0.5173)	0.15 (0.6956)
Trade openness		
World democracy 40% or greater		
ELF less than 50%	1.21 (0.2711)	0.82 (0.3657)
Largest ethnic group over 50%	0.00 (0.9640)	0.33 (0.5633)
Muslim majority		
Christian majority		
Catholic majority		
Protestant majority		2.36 (0.1243)
Buddhist majority	0.25 (0.6182)	2.34 (0.1260)
Hindu majority	1.30 (0.2543)	0.92 (0.3382)
Orthodox majority	2.66 (0.1032)	2.34 (0.1257)

The results in the table show that thirteen of the independent variables were significant,

with one solely at the 10 percent significance level; ten solely at the 5 percent level; and

six solely at the 1 percent level. Significance levels were divided between test statistics

for the three variables: US military troops stationed in a country and trade openness (Log

Rank at 5 percent, Wilcoxon at 1 percent), and Christian majority (Log Rank at 1 percent, Wilcoxon at 5 percent). It should be noted that for the consolidated authoritarian regime-failure type all five of the indicators of US military engagement were significant with nine of the ten test statistics significant at the 1 percent significance level.

Beginning on the next page are the graphs of the survival functions for the thirteen significant variables. As was noted earlier consolidated authoritarian regime-failure types overall have less chance of survival than their consolidated democratic counterparts. This can also be seen in the graphs below when they are compared with those in the previous section. Another very interesting difference between the two sets of graphs is the manner in which the two survival functions diverge when testing for the effects of any one independent variable. In the graphs in the previous section the survival functions diverged in what could be described as "sideways V" pattern. Once the two survival functions started to diverge, they continued to diverge. In the graphs below initial divergence is of the same pattern but the survival functions appear to come closer to each other toward the end of the duration of observation. This is very interesting as it indicates that for consolidated authoritarian regimes the variables have a more significant influence in the mid term and less influence in the long-term. This may well indicate effects brought on by the collapse of the Soviet Union and concomitant drop in the ability of indigenous authoritarian governments to maintain control without Soviet support no matter the influence of other factors. This pattern occurs in most, but not all, of the survival functions for the variables shown in the graphs below.

Consolidated Authoritarian States
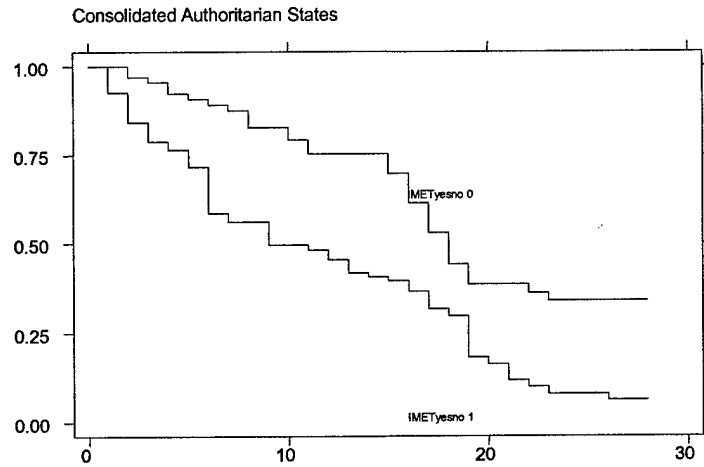
Graph 3-19: IMET Participant

Consolidated Authoritarian States
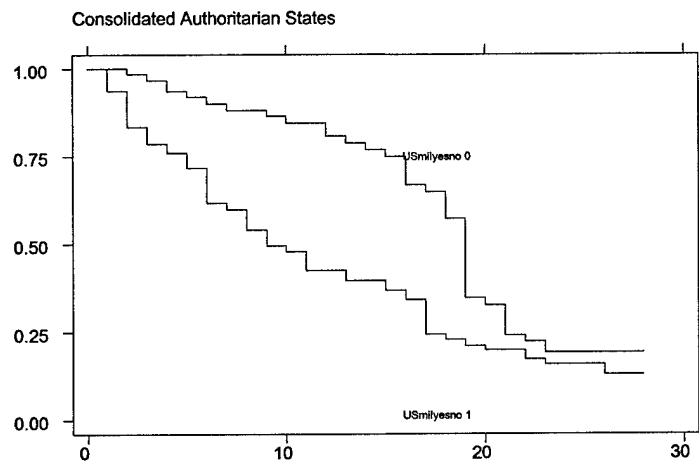
Graph 3-20: US Military Troops Stationed in Country

Consolidated Authoritarian States
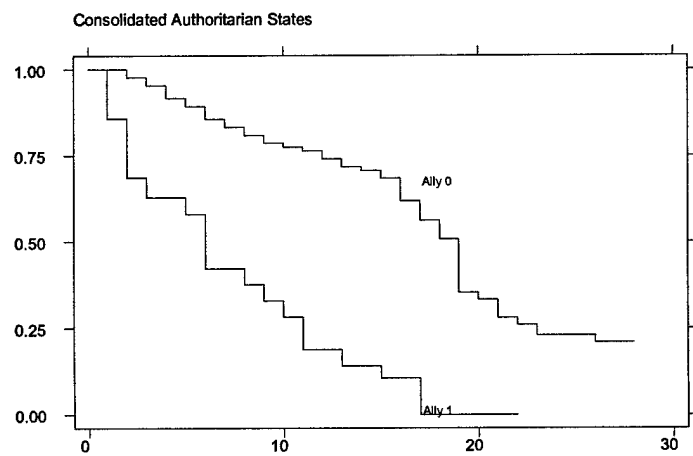
Graph 3-21: Security Alliance with the United States

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Consolidated Authoritarian States

Graph 3-22: Recipient of US Military Aid

Consolidated Authoritarian States

Graph 3-23: Recipient of US Military Sales Deliveries

Consolidated Authoritarian States

Graph 3-24: Recipient of US Economic Aid

Consolidated Authoritarian States
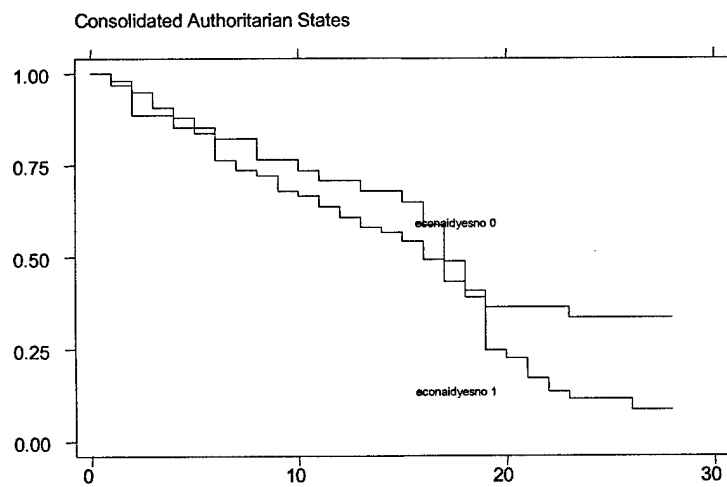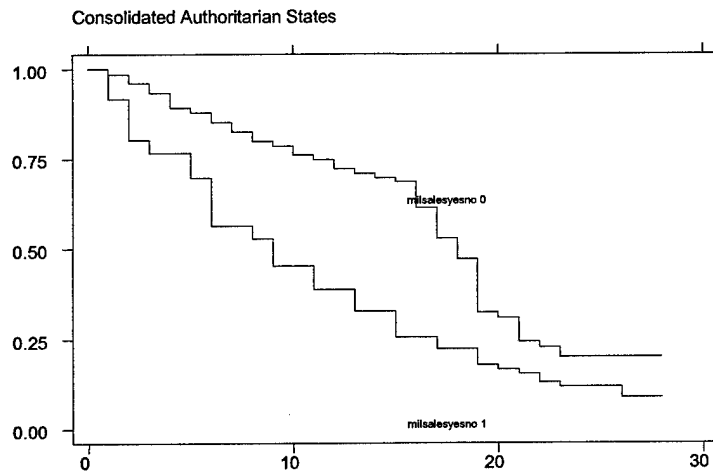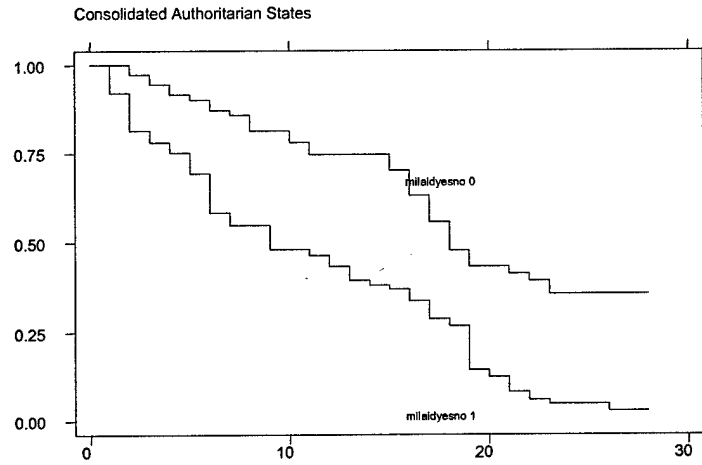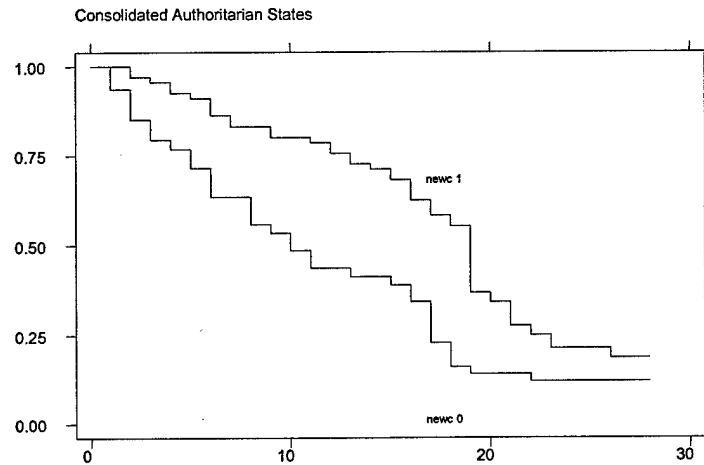
Graph 3-25: New Country in or after 1945

Consolidated Authoritarian States
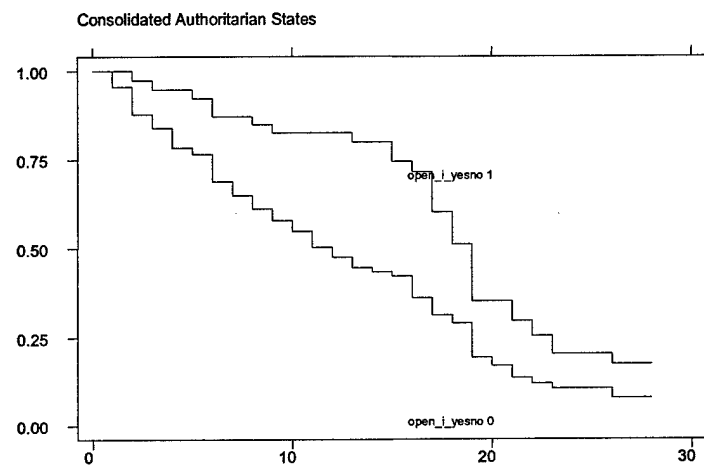
Graph 3-26: Trade Openness, 1=most open 50%

Consolidated Authoritarian States
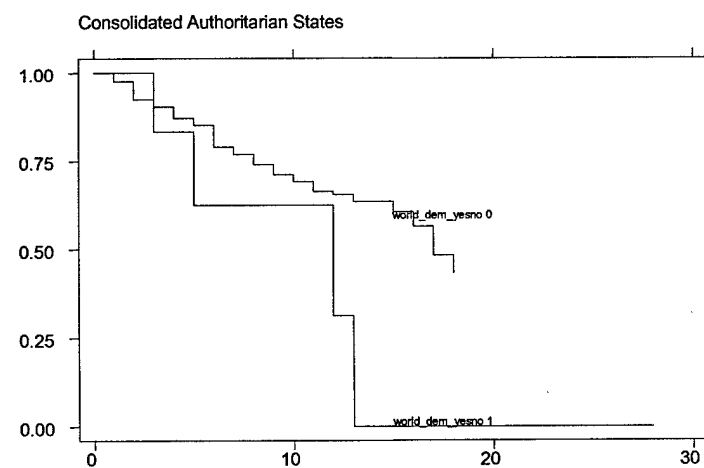
Graph 3-27: World Democracy greater than 40% of countries

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Consolidated Authoritarian States

muslim_majority_yesno 1

muslim_majority_yesno 0
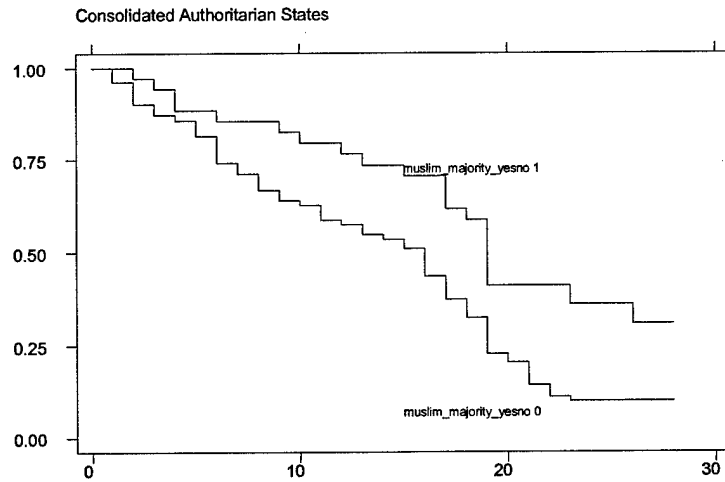
Graph 3-28: Muslims are at least 50% of the population

Consolidated Authoritarian States

christian_majority_yesno 0

christian_majority_yesno 1
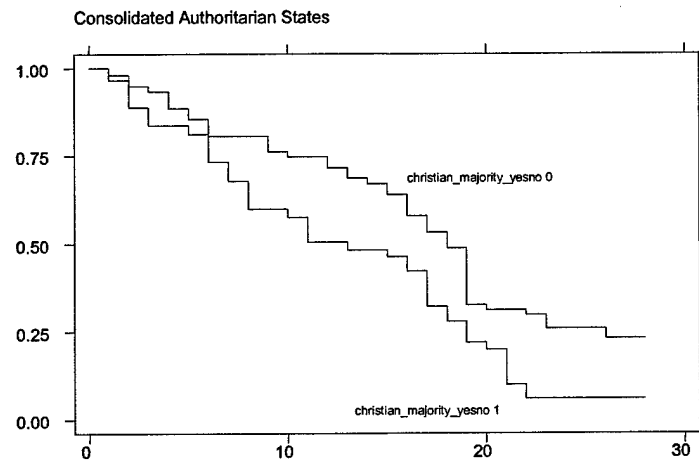
Graph 3-29: Christians are at least 50% of the population

Consolidated Authoritarian States

catholic_majority_yesno 0

catholic_majority_yesno 1
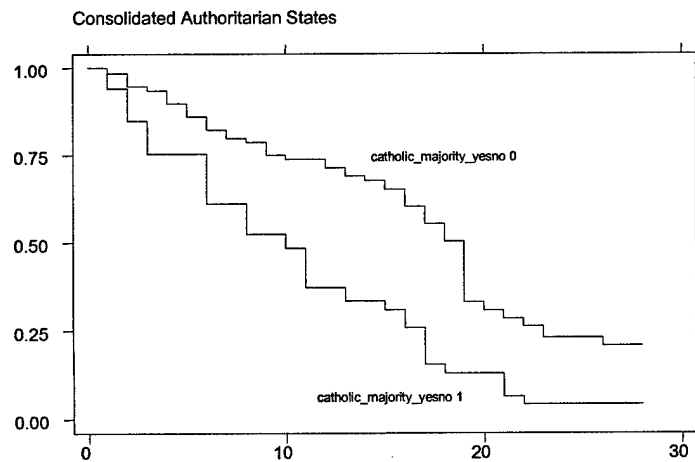
Graph 3-30: Roman Catholics are at least 50% of the population

Consolidated Authoritarian States

protestant_majority_yesno 1

protestant_majority_yesno 0
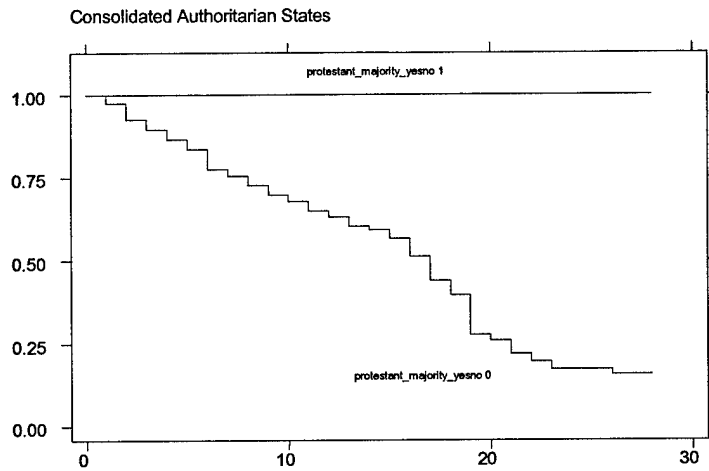
Graph 3-31: Protestants are at least 50% of the population

The preceding graphs show in detail how the survival function for the consolidated authoritarian regime-failure type was altered when individual variable effects were incorporated into the estimation. Table 3-6 below combines the information presented in Table 3-5 containing the results of two significance tests and the graph representation of the two survival functions for each variable. It summarizes how each of the twenty-one variables in their individual capacity affected the longevity of consolidated authoritarian states.

TABLE 3-6
Consolidated Authoritarian: Bivariate Effects on Survival

	Meaning of Bivariate Result
Key Variables of Interest	
IMETyesno	IMET participant more likely to fail
USmilyesno	with US military troops stationed, more likely to fail
Ally	when in a security alliance with the US, more likely to fail
milaidyesno	as a recipient of US military aid, more likely to fail
milsalesyesno	as a recipient of US military sales deliveries, more likely to fail
Other Variables	
soviet_foreign_asst	not significant
econaid_yesno	as a recipient of US economic aid, more likely to fail
newc	new countries since 1945, more likely to survive
britcol	not significant
GDPyesno	not significant
open_i_yesno	with greater trade openness are more likely to survive
world_dem_yesno	40% or more of countries democratic, more likely to fail
ELF_yesno	not significant
ethnic_gp_yesno	not significant
muslim_majority_yesno	with at least 50% Muslim population, more likely to survive
christian_majority_yesno	with at least 50% Christian population, more likely to fail
catholic_majority_yesno	with at least 50% Catholic population, more likely to fail
protestant_majority_yesno	with at least 50% Protestant population, more likely to survive
buddhist_majority_yesno	not significant
hindu_majority_yesno	not significant
orthodox_majority_yesno	not significant

Middle Ground to Democracy: Bivariate Results

Shown below in Table 3-7 are the statistical significance test results for each

independent variable for Kaplan-Meier estimation for the middle ground to democracy

regime-failure type. The results in the table show that nine of the independent variables

were significant, with one solely at the 10 percent significance level; two solely at the 5

percent level; and four solely at the 1 percent level. Significance levels were divided

between test statistics for the two variables: former British colony (Log Rank at 1

percent, Wilcoxon at 10 percent), and Christian majority (Log Rank at 1 percent,

Wilcoxon at 5 percent).

## TABLE 3-7
Middle Ground to Democracy: Log Rank and Wilcoxon Significance Tests

	Log Rank Test	Wilcoxon Test
Key Variables of Interest		
IMET Participant	1.27 (0.2592)	2.02 (0.1548)
US Military Stationed in country	*(illegible, shaded)* (0.0000)	*(illegible, shaded)* (0.0000)
Security Alliance	*(illegible, shaded)* (0.0000)	*(illegible, shaded)*
US Military Aid Recipient	0.11 (0.7399)	0.72 (0.3960)
US Military Sales Recipient	*(illegible, shaded)* (0.0280)	*(illegible, shaded)*
Other Variables		
Soviet Foreign Assistance	1.58 (0.2092)	0.65 (0.4213)
US Economic Aid Recipient	0.66 (0.4162)	0.32 (0.5710)
New Country since 1945	*(illegible, shaded)* (0.000?)	*(illegible, shaded)* (0.0228)
Former British Colony	*(illegible, shaded)* (0.002?)	*(illegible, shaded)*
GDP per capita greater than $4000	*(illegible, shaded)* (0.010?)	*(illegible, shaded)* (0.0176)
Trade Openness	0.74 (0.3890)	0.93 (0.3336)
World Democracy 40% or greater	0.04 (0.8489)	0.11 (0.7438)
ELF less than 50%	1.36 (0.2430)	0.56 (0.4530)
Largest Ethnic Group over 50%	2.15 (0.1424)	2.68 (0.1014)
Muslim Majority	1.89 (0.1692)	0.77 (0.3795)
Christian Majority	*(illegible, shaded)* (0.0004)	*(illegible, shaded)* (0.052?)
Catholic Majority	*(illegible, shaded)* (0.0000)	12.52 (0.000?)
Protestant Majority	0.26 (0.6079)	0.89 (0.3450)
Buddhist Majority	0.45 (0.5010)	0.07 (0.7875)
Hindu Majority	0.78 (0.3776)	0.61 (0.4346)
Orthodox Majority	3.18 (0.0746)	3.42 (0.0645)

Shown below are the graphs of the survival functions for the nine significant

variables of the middle ground to democracy regime-failure type. Most of the graphs of

the survival functions diverged in the "sideways V" pattern similar to those of the

consolidated democracy regime-failure type. There does appear some hint of the pattern

noted for the consolidated authoritarian graphs in the variables for US military sales

deliveries and GDP per capita. However, the lessening of the divergence for the survival

functions in these two graphs may just was well be attributed to the less significant

significance level for them than for the other variables for middle ground to democracy

regime-failure type.

Another item to note is that the graph of the two survival functions for the

variable for former British colony reflects the significance levels of the Log Rank at the 1

percent level and Wilcoxon at the 10 percent level, indicating more pronounced

divergence in later years.

Middle Ground to Democracy
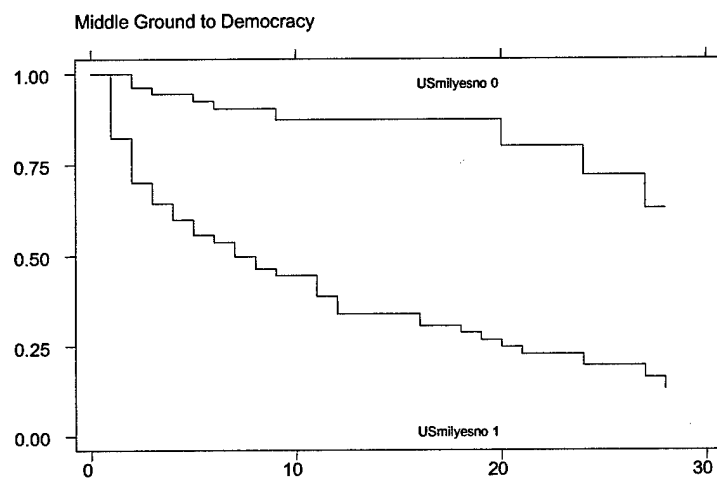
Graph 3-32: US Military Troops Stationed in Country

Middle Ground to Democracy
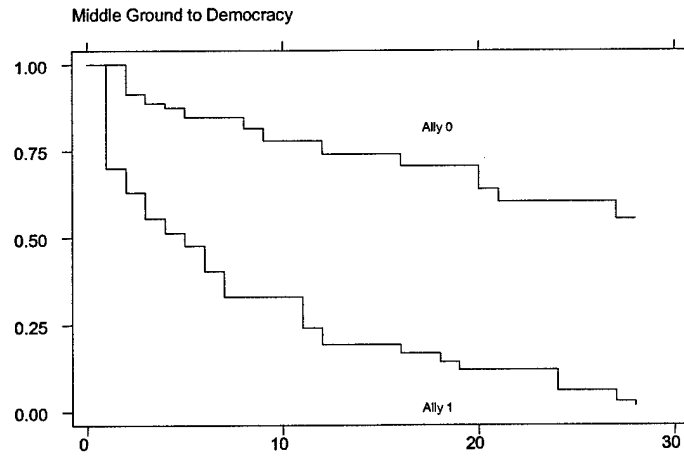
Graph 3-33: Security Alliance with the United States

Middle Ground to Democracy
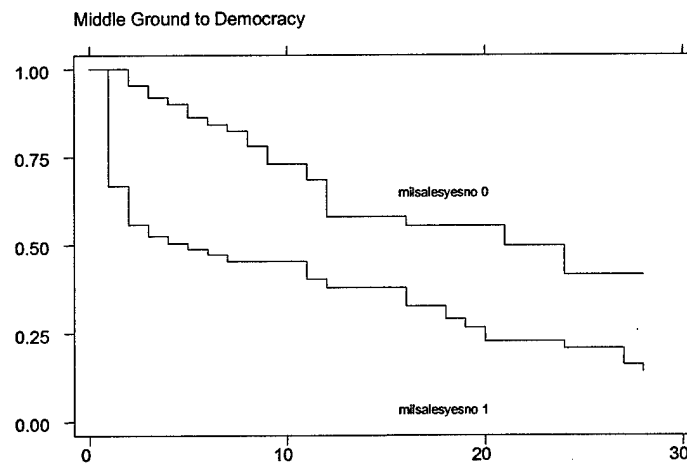
Graph 3-34: Recipient of US Military Sales Deliveries

Middle Ground to Democracy
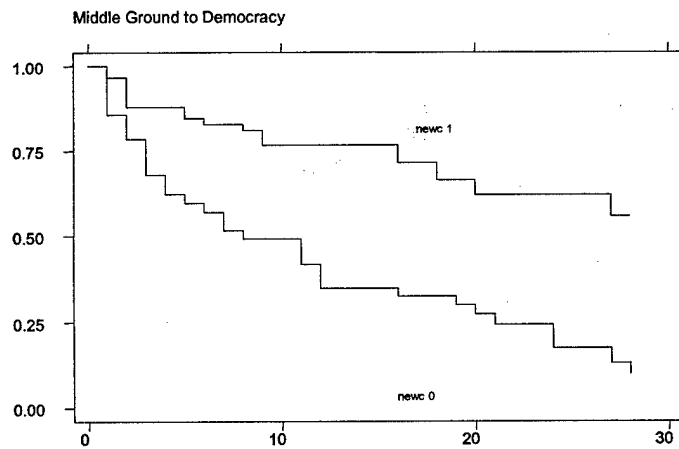
Graph 3-35: New Country in or after 1945

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Middle Ground to Democracy
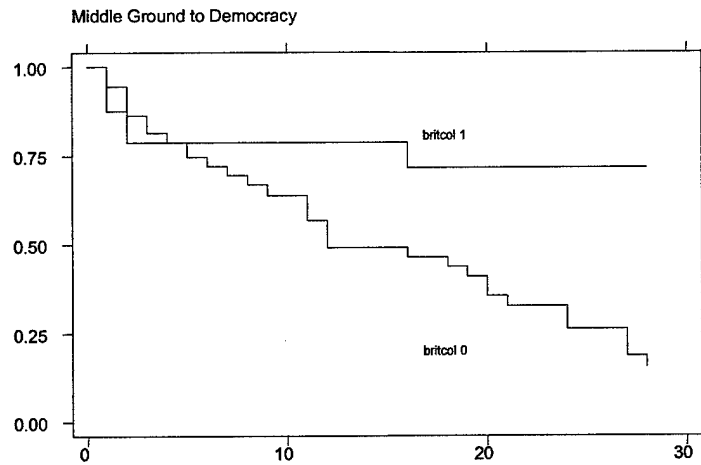
Graph 3-36: Former British Colony

Middle Ground to Democracy
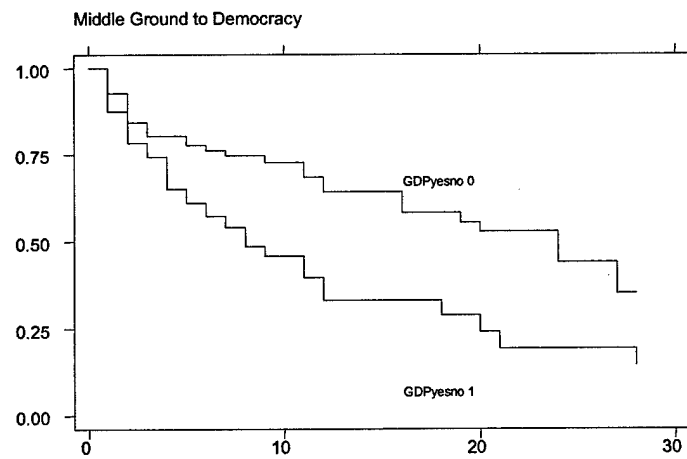
Graph 3-37: GDP per capita greater than $4,000

Middle Ground to Democracy
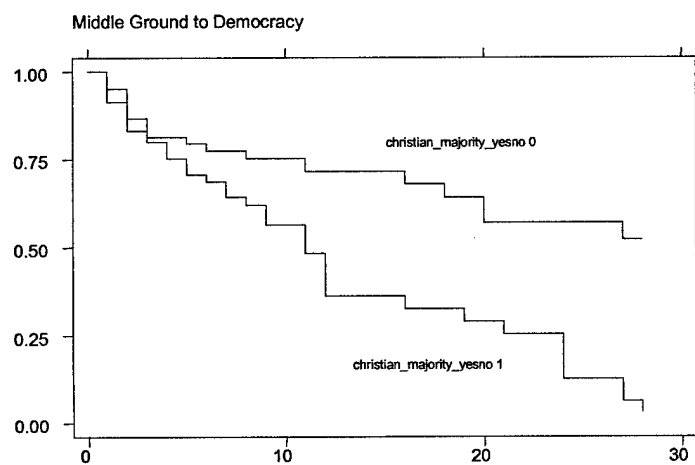
Graph 3-38: Christians are at least 50% of the population

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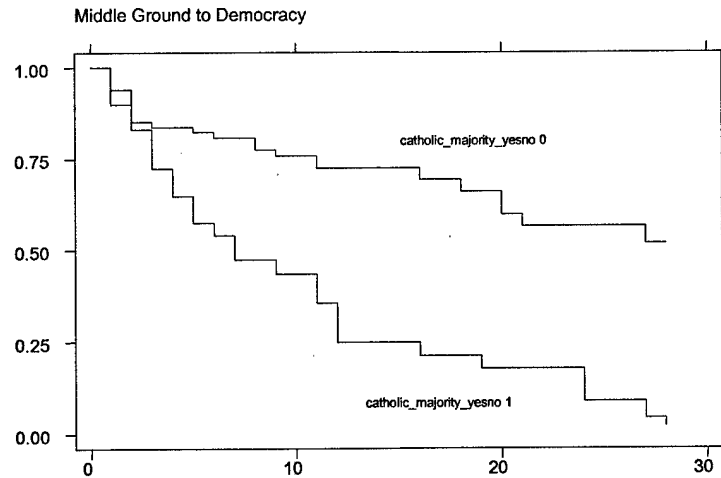
Graph 3-39: Roman Catholics are at least 50% of the population
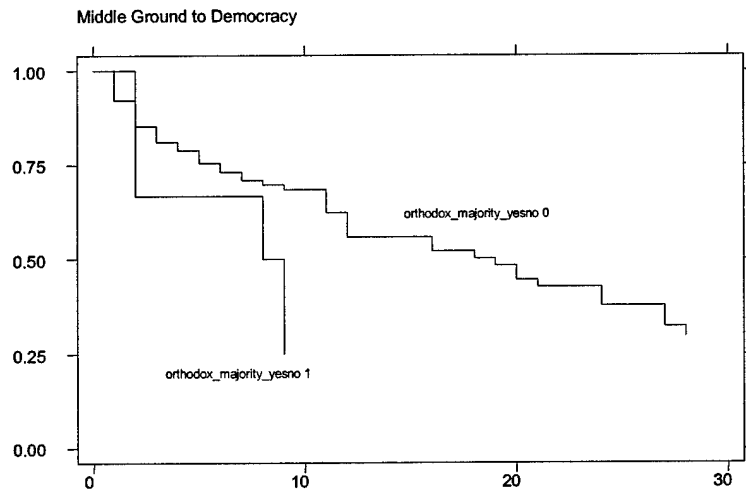
Graph 3-40: Eastern Orthodox are at least 50% of the population

The preceding graphs show in detail how the survival function for middle ground to democracy regime-failure types was altered when individual variable effects were incorporated into the estimation. Table 3-8 below combines the information presented in Table 3-7 containing the results of two significance tests and the graphical representation of the two survival functions for each variable. It summarizes how each of the twenty-

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one variables in their individual capacity affected the longevity of the middle ground to democracy regime-failure types.

TABLE 3-8
Middle Ground to Democracy: Bivariate Effects on Survival

	Meaning of Bivariate Result
Key Variables of Interest	
IMETyesno	not significant
USmilyesno	with US military troops stationed, more likely to "fail" to democracy
Ally	in a security alliance with the US, more likely to "fail" to democracy
milaidyesno	not significant
milsalesyesno	recipient of US military sales, more likely to "fail" to democracy
Other Variables	
soviet_foreign_asst	not significant
econaid_yesno	not significant
newc	new countries, more likely to survive (not "fail" to democracy)
britcol	former British colonies, more likely to survive (not "fail" to democracy)
GDPyesno	with GDP per capita > $4000, more likely to "fail" to democracy
open_i_yesno	not significant
world_dem_yesno	not significant
ELF_yesno	not significant
ethnic_gp_yesno	not significant
muslim_majority_yesno	not significant
christian_majority_yesno	at least 50% Christian population, more likely to "fail" to democracy
catholic_majority_yesno	at least 50% Catholic population, more likely to "fail" to democracy
protestant_majority_yesno	not significant
buddhist_majority_yesno	not significant
hindu_majority_yesno	not significant
orthodox_majority_yesno	at least 50% Orthodox population, more likely to "fail" to democracy

Middle Ground to Authoritarian: Bivariate Results

Shown below in Table 3-9 are the statistical significance test results for each independent variable for Kaplan-Meier estimation for the middle ground to authoritarian regime-failure type. The results in the table show that six of the independent variables

were significant, with one solely at the 10 percent significance level and four solely at the

1 percent level. Significance levels were divided between test statistics for the variable

for Buddhist majority (Log Rank at 5 percent, Wilcoxon at 10 percent).

TABLE 3-9
Middle Ground to Authoritarian: Log Rank and Wilcoxon Significance Tests

	Log Rank Test	Wilcoxon Test
Key Variables of Interest		
IMET Participant	0.60 (0.4375)	0.81 (0.3671)
US Military Stationed in country	0.42 (0.5166)	0.65 (0.4201)
Security Alliance	1.21 (0.2714)	0.90 (0.3418)
US Military Aid Recipient	0.36 (0.5508)	0.62 (0.4294)
US Military Sales Recipient	0.13 (0.7164)	0.02 (0.8963)
Other Variables		
Soviet Foreign Assistance	9.31 (0.0023)	11.25 (0.0008)
US Economic Aid Recipient	0.81 (0.3668)	0.79 (0.3741)
New Country since 1945	0.46 (0.4975)	0.18 (0.6727)
Former British Colony	8.65 (0.0033)	7.27 (0.0070)
GDP per capita greater than $4000	2.73 (0.0985)	1.42 (0.2342)
Trade Openness	8.03 (0.0046)	10.09 (0.0015)
World Democracy 40% or greater	12.64 (0.0004)	10.31 (0.0013)
ELF less than 50%	0.39 (0.5318)	0.51 (0.4735)
Largest Ethnic Group over 50%	0.17 (0.6777)	0.65 (0.4206)
Muslim Majority	0.18 (0.6678)	0.07 (0.7862)
Christian Majority	0.00 (0.9437)	0.02 (0.8752)
Catholic Majority	0.24 (0.6239)	0.46 (0.4996)
Protestant Majority	0.28 (0.5987)	0.52 (0.4706)
Buddhist Majority	4.26 (0.0391)	3.19 (0.0739)
Hindu Majority	0.51 (0.4740)	0.45 (0.5007)
Orthodox Majority	0.35 (0.5515)	0.07 (0.7845)

Shown below are the graphs of the survival functions for the six significant

variables of the middle ground to authoritarian regime-failure type. All of the graphs of

the survival functions diverged in the "sideways V" pattern similar to those of the

consolidated democracy regime-failure type. There was one variable, GDP per capita,

that tested significant only for the Log Rank test indicating that this variable might have more influence on survival in the longer term. For the variable indicating a Buddhist majority, the difference in the significance levels of the test statistics is somewhat evident in the graph suggesting possible greater influence in the longer term.

Middle Ground to Authoritarian
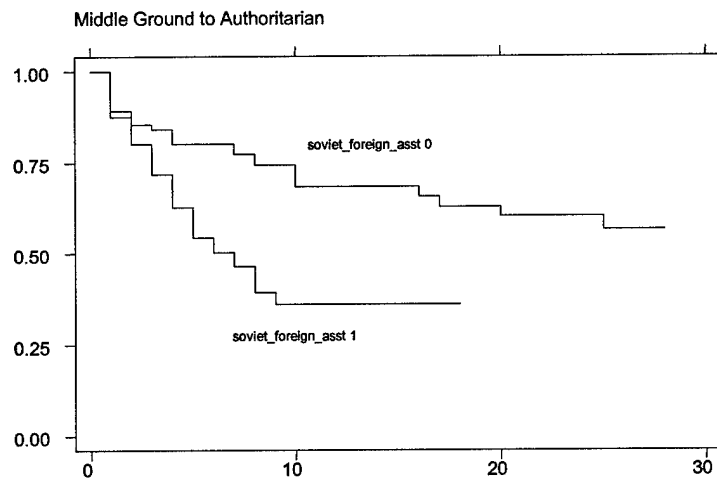
Graph 3-41: Recipient of Soviet Foreign Assistance

Middle Ground to Authoritarian
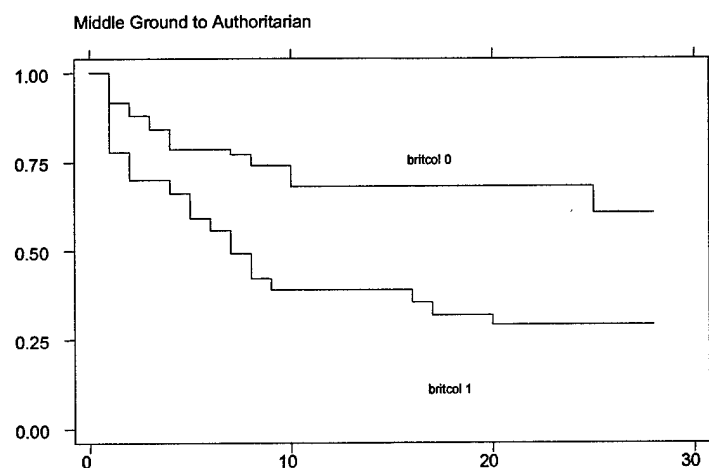
Graph 3-42: Former British Colony

Middle Ground to Authoritarian
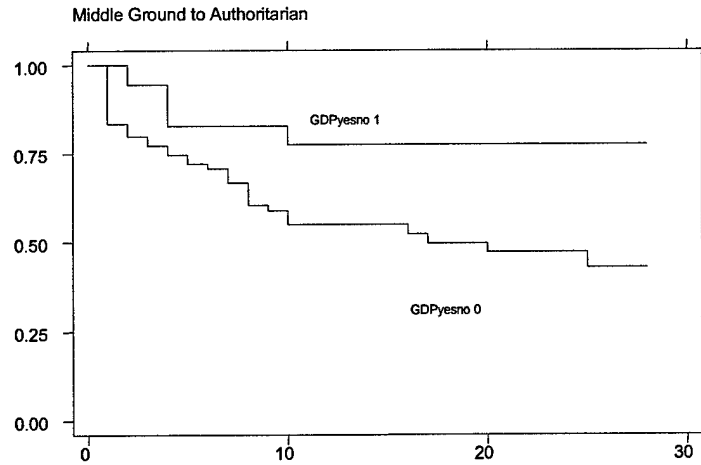
Graph 3-43: GDP per capita greater than $4,000

Middle Ground to Authoritarian
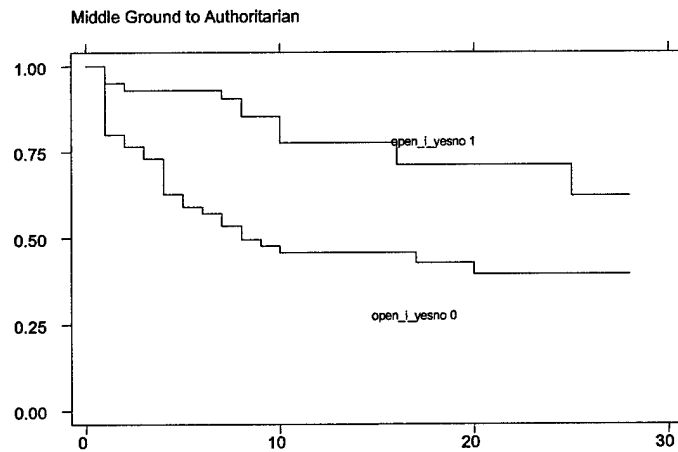
Graph 3-44: Trade Openness, 1=most open 50%

Middle Ground to Authoritarian
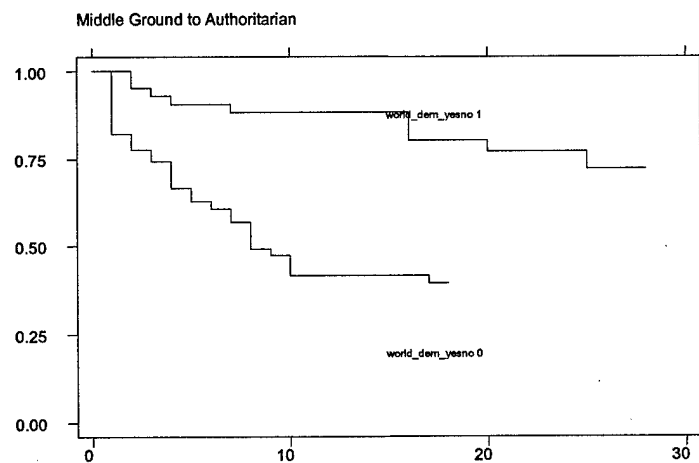
Graph 3-45: World Democracy greater than 40% of countries

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Middle Ground to Authoritarian

buddhist_majority_yesno 0

buddhist_majority_yesno 1
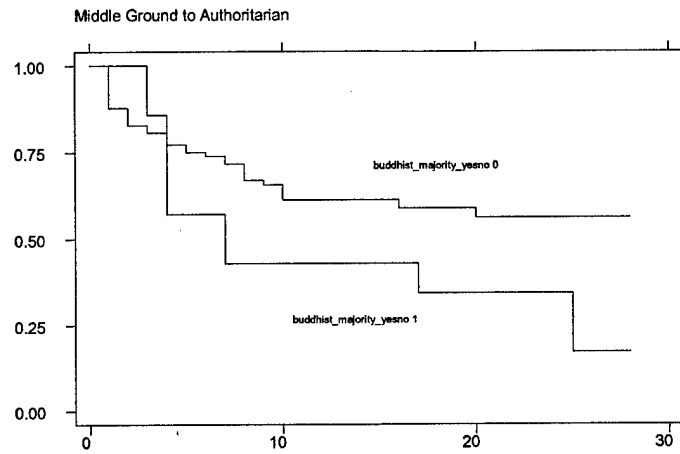
Graph 3-46: Buddhists are at least 50% of the population

The preceding graphs show how the survival function for middle ground to authoritarian regime-failure type was altered when individual variable effects were incorporated into the estimation. Table 3-10 below summarizes how each of the twenty-one variables in their individual capacity affected the longevity of middle ground to authoritarian regime-failure type. It is noteworthy that for this regime-failure type, in contrast to the other three types, there were many variables that were *not* statistically significant.

TABLE 3-10
Middle Ground to Authoritarian: Bivariate Effects on Survival

	Meaning of Bivariate Results
Key Variables of Interest	
IMETyesno	not significant
USmilyesno	not significant
Ally	not significant
milaidyesno	not significant
milsalesyesno	not significant
Other Variables	
soviet_foreign_asst	recipient of Soviet assistance, more likely to fail to authoritarian
econaid_yesno	not significant
newc	not significant
britcol	former British colonies, more likely to fail to authoritarian
GDPyesno	with GDP per capita > $4000, more likely to survive
open_i_yesno	greater trade openness, more likely to survive
world_dem_yesno	40% or more countries democratic, more likely to survive
ELF_yesno	not significant
ethnic_gp_yesno	not significant
muslim_majority_yesno	not significant
christian_majority_yesno	not significant
catholic_majority_yesno	not significant
protestant_majority_yesno	not significant
buddhist_majority_yesno	at least 50% Buddhist, more likely to fail to authoritarian
hindu_majority_yesno	not significant
orthodox_majority_yesno	not significant

Democratic and Authoritarian Trends: Overall Assessment of Bivariate Results

In this the final section of the chapter the preceding Kaplan-Meier estimation results are drawn together to provide an overall assessment of the twenty-one independent variables on democratization across regime-failure type. This assessment is shown in Table 3-11 to follow.

The table consolidates the results that were presented previously by regime-failure type in Tables 3-4, 3-6, 3-8, and 3-10, however the results in Table 3-11 are displayed in terms of effect on democratic trends rather than effect of the factor on failure for the regime type. For example, a variable that is listed as having a positive influence on democratization for consolidated authoritarian regimes would indicate that the variable was statistically significant in reducing the survival probability of consolidated authoritarian regimes. However a variable listed as having a negative influence on democratization would indicate that the variable was significant in helping consolidated authoritarian regimes remain as such. The same is true for the consolidated democracies; a positive effect means that the variable helped them to remain as consolidated democracies whereas a negative effect indicates that the variable decreased survival chances.

For middle ground regime types, failure indicated one of three things: an authoritarian trend, a democratic trend, or a consolidating effect. A variable listed as having a positive effect means that it either helped a middle ground regime "fail" to consolidated democracy or remain in the middle ground rather than fail to consolidated authoritarianism. A variable listed as having a negative impact means that it helped middle ground regimes fail to consolidated authoritarianism or remain in the middle ground rather than fail to consolidated democracy. It is important to keep in mind that there are two regime-failure types required to assess the middle ground; thus, the overall assessment depends on the effect of the variable across the two regime failure-types.

TABLE 3-11
Summary of Bivariate Effects on Democratization Trends

	Consolidated Authoritarian	Middle Ground to Democracy	Middle Ground to Authoritarian	Consolidated Democracy
Key Variables of Interest				
IMET Participant		0/0	0/0	0/0
US Military Stationed there			0/0	
Security Alliance with US			0/0	
US Military Aid Recipient		0/0	0/0	-/0
US Military Sales Recipient			0/0	0/0
Other Variables				
Soviet Foreign Assistance	0/0	0/0	---/---	---/---
US Economic Aid Recipient		0/0	0/0	---/---
New Country since 1945	---/---	---/---	0/0	---/---
Former British Colony	0/0	---/-	---/---	---/---
GDP per capita > $4000	0/0			
Trade Openness	--/---	0/0		0/0
World Democracy >= 40%		0/0		-/-
ELF less than 50%	0/0	0/0	0/0	
Ethnic Group over 50%	0/0	0/0	0/0	
Muslim Majority	---/---	0/0	0/0	---/---
Christian Majority			0/0	
Catholic Majority			0/0	0/0
Protestant Majority	-/0	0/0	0/0	
Buddhist Majority	0/0	0/0	--/-	0/0
Hindu Majority	0/0	0/0	0/0	0/0
Orthodox Majority	0/0		0/0	0/0

Significance levels are reported as Log Rank test/Wilcoxon test
" +" signifies a positive effect. " –" signifies a negative effect.
The number of " +" and " –" symbols indicates the significance level.
+++ or --- 1 percent
++ or – 5 percent level
+ or – or 10 percent level
0 indicates no statistically significant effect

The highly significant positive results for all of the US military engagement variables for consolidated authoritarian regimes are particularly noteworthy. It would appear that consolidated authoritarian regimes that are engaged by the US military in any manner are less likely to survive than their counterparts that were not engaged. This is

true as well of middle ground regimes although the finding is not as strong. This result is the most significant finding of the Kaplan-Meier estimation analysis. Another important effect to note is that Soviet foreign assistance significantly decreased the survival probability of both consolidated democratic regimes and middle ground regimes.

The effects of all of the dichotomized variables are discussed in detail below in the order they appear in Table 3-11, not necessarily in order of importance. The discussion has two purposes, first to describe the influence of the variables, second to discuss reasons for not retaining a particular variable in subsequent analyses. Unless specifically noted below the variable or its continuous counterpart was used in the subsequent Cox proportional hazard regression modeling analyses. If the variable is not carried through to the next stage of analysis, I explain my decision in the discussion below.

US Military Engagement

The most striking result of the Kaplan-Meier analysis is the positive influence exerted by all five indicators of US military engagement on the liberalization of consolidated authoritarian regimes. All five indicators tested statistically significant at the 1 percent significance level for at least one of the significance tests with nine of the ten statistical significance tests at the 1 percent level. The result is so striking because it spans all five US military engagement variables. When consolidated authoritarian regimes become involved with the US military measured in a variety of ways their probability of survival is significantly diminished from their consolidated authoritarian counterparts who are not involved with the US military.

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This result carries over to the middle ground regime-failure types. Three of the US military engagement variables were positive; two at the 1 percent level and the other at the 5 percent level. For the middle ground regimes, the US military engagement measures were significant in aiding transition to consolidated democracy, however they had no significant effect either aiding or preventing transition to authoritarianism. For consolidated democratic regimes two of the US military engagement variables are statistically significant positive influences, promoting the durability of democratic regimes.

Only one of the US military engagement variables exerted a negative influence on any of the four regime-failure types. It can be seen that consolidated democracies that received US military aid had a decreased chance of survival. This may be a selection effect. For example, it would seem reasonable that the United States might give military aid to those consolidated democracies that were in greatest need of it. These might also be the countries that would be most likely to fail. In total, the Kaplan-Meier results decisively point to a very positive association between US military engagement and liberalization across regime types.

Soviet Foreign Assistance

The inclusion of a measure of Soviet influence in any analysis of democratization is essential because it might reasonably be suggested that the Soviet Union exerted a hegemonic influence that countered US democratization efforts and helped authoritarian governments remain in power in numerous countries. The extent to which the Soviet

Union influenced liberalizing or authoritarian trends is of particular relevance and interest in my study that spanned the years before and after the fall of the USSR.

The Kaplan-Meier estimation analysis provided interesting results for the influence of Soviet foreign assistance on liberalizing and authoritarian trends. Contrary to conventional ideas about Soviet support for fellow communist-authoritarian states, Soviet foreign assistance neither helped nor hindered the survival probability of consolidated authoritarian regimes. The Kaplan-Meier results showed that Soviet foreign assistance was not a significant influence on the longevity of consolidated authoritarian regimes. However supporting conventional ideas, the results did show that Soviet foreign assistance had a highly significant negative influence on the survival probability of both consolidated democratic regimes and middle ground regimes. For both of these regime types, being a recipient of Soviet foreign assistance decreased the probability of survival and increased the probability of transition to greater authoritarianism. Overall Soviet foreign assistance was found to be a significant counter-influence to other factors that promoted liberalizing trends.

US Economic Assistance

US economic assistance is a control variable used in subsequent analyses to account for the influence of US economic assistance apart from US military assistance. The Kaplan-Meier results showed that US economic aid may have the long-term effect of decreasing the survival probability of consolidated authoritarian regimes as indicated by the significance of the Log Rank test. It had no significant influence on the middle ground regimes, and a surprisingly strong negative influence on consolidated democratic

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regimes. Once again, this may be a selection effect indicating that the United States might provide financial assistance to those consolidated democracies that are in most need and thus most likely to fail. However, the highly significant negative influence is noteworthy as contrary to expectations.

New Countries

It would seem logical to suggest that young countries would generally have a more difficult time surviving as democracies than would established countries. Democracy invites and is defined by dissension and political competition. Young countries are much less likely to have institutionalized or established procedures to handle these phenomena. The Kaplan-Meier results do indicate that new countries have a more difficult time democratizing than their counterparts that existed as states before 1945. The variable for new country had a highly significant negative impact on democratization/liberalization across three of the four regime-failure types.

Former British Colonies

Although a country might be "new" in the sense of gaining its independence from a colonial master or in the sense of being formed from other existing entities, previous democratization theory and research has suggested that status as a former British colony ameliorates this effect. That is, former British colonies are more likely to survive as new democratic states than their counterparts who were not British colonies. Conventional thought suggests that these new countries were left by the British with "Western" beliefs and values as well as the institutions and trained indigenous personnel who had

experience performing some of the functions necessary to governing a democratic state. This British colonial legacy is thought to have a positive influence on democratization.

Contrary to these studies, the Kaplan-Meier results indicate that states that were former British colonies have a more difficult time democratizing than their counterparts that were not. The variable for former British colony had a highly significant negative impact on democratization/liberalization across three of the four regime-failure types. While counter to conventional theories, my results are consistent with Paxton (2002) who found no significant effect in 1977 and a negative effect in 1991. This time varying relationship is suggested in the results for the two significance tests for my middle ground to democracy regime-failure type in which the Log Rank test was significant at the 1 percent level while the Wilcoxon test was significant only at the 10 percent level indicating a more pronounced negative influence on democratization over the longer term for this particular regime-failure type.

Level of Economic Development

The most explored relationship in democratization studies is that between democracy and economic development. My preliminary findings based on the Kaplan-Meier analysis points to an analytic discontinuity in two leading research works on democratization, Huntington (1991) and Przeworski et al (2000). My bivariate results indicate that both of their arguments contain some truth based on how states are categorized. Huntington (1991) argued that one of the most important factors in the emergence of democratic states in the 1970-1980s was "higher levels of economic well-being, which led to more widespread literacy, education, and urbanization, a larger

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middle class, and the development of values and attitudes supportive of democracy ...”[3]

Przeworski et al. countered Huntington arguing that level of economic development did not lead to the failure of authoritarian governments, but economic development was a significant determiner of survival as a democracy once a democratic governing system was achieved.[4] That is, Huntington argued that a higher level of economic development helped both in transition to democracy and consolidation of democracy, whereas Przeworski et al. argued that level of economic development was only a significant factor in aiding democratic states to survive once they achieve democracy.

My Kaplan-Meier results lend support and refutation to both Huntington and Przeworski et al. based on how "democratization" is considered in differing regime types. In support of the consolidation argument my bivariate results show that a high level of economic development, as defined by a GDP per capita of greater than $4,000, has a highly significant positive influence on the survival of consolidated democracies, and it had no significant influence on the probability that consolidated authoritarian states would transition toward greater liberalism.

However, when the middle ground of regimes is considered a slightly different story emerges. For countries in the middle ground, a high level of economic development led to a greater probability that middle ground countries would "fail" to democracy. This is partial support for Huntington's transition argument. However for the middle ground countries, a high level of economic development was also associated

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[3] Samuel P. Huntington, *The Third Wave: Democratization in the Late Twentieth Century*, Norman: University of Oklahoma Press, 1991, 106.

[4] Adam Przeworski, Michael E. Alvarez, José Antonio Cheibub, and Fernando Limongi, *Democracy and Development: Political Institutions and Well-Being in the World*, 1950-1990, Cambridge: Cambridge University Press, 2000.

with survival as a middle ground country inhibiting failure to authoritarianism particularly in the long-term as indicated by the significance of only the Log Rank test. This provides support to the Przeworski et al. argument.

My bivariate results indicate there is truth in both the transition and consolidation arguments depending on how regime types are delineated. Theoretically, the Kaplan-Meier results indicate a more complex effect of the level of economic development on the survival of differing regime types. My bivariate results based on three regime types highlight significant theoretical and methodological implications of the analytic practice of dichotomizing countries into solely democracy-nondemocracy categories.

Trade Openness

Trade openness is frequently associated with democratization policies and strategies, although the causal direction of the relationship between trade openness and democracy is not theoretically well understood. My bivariate results indicate that the influence of trade openness was mixed. It had a significant negative influence on democratization for consolidated authoritarian states. This is contrary to foreign policy ideas that link democratization with free market economies or policies that promote trade openness as a specific strategy of democratization/liberalization. It might be suggested that trade openness promotes wealth specifically for the leadership of authoritarian states and thus also promotes their ability to retain political control.

For the middle ground of countries, trade openness did have a highly significant positive influence on hindering middle ground countries from failing to authoritarianism, but had no effect helping them become consolidated democracies. Trade openness had

no effect on the probability of survival for consolidated democratic states. Overall it would appear that trade openness at best had a neutral effect on democratic trends, at worst it helped consolidated authoritarian regimes endure.

Predominance of World Democracy

Percentage of world democracy had a mixed influence on democratization between the various regime-failure types. When over 40 percent of the countries of the world are democratic, the survival probability of consolidated authoritarian regimes was significantly decreased. A parallel but milder influence can be seen for middle ground states where greater world democracy was associated with decreased probability of failure to authoritarianism, but it had no effect on promoting transition to democracy. Oddly, greater than 40 percent world democracy is associated with a decreased chance of survival for consolidated democracies. This effect could be explained if, as the number of countries move toward democracy, the newer democracies are frailer than their established counterparts and are more likely to fallback or fail. This idea is supported by the highly negative influence on democratization that was seen in the variable for new country. Because this variable was invariant for all countries in any one year, it was not carried forward to the multivariate analysis.

Ethnic Diversity

Two variables operationalized the concept of ethnic diversity: ethnolinguistic fractionalization and percentage of the population that is of the largest ethnic group. As noted in the previous chapter the measures are highly correlated and this is reflected in

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their almost identical influence on the survival functions. Both were significant only as a positive influence prolonging the survival of consolidated democratic regimes. That is, the less ethnic diversity the greater the probability of survival for consolidated democratic regimes. Both variables had no significant effect on the other three regime-failure types. Because the two variables operationalized the same concept and their effect was identical, only the variable measuring the percent of the population that is of the largest ethnic group was retained for subsequent analyses for methodological reasons that will be discussed in the next chapter.

Majority Religion

Finally, there were six dichotomized measures for majority religious affiliation within a country. The effect for these six variables on democratization was in line with many previous democratization studies. A Muslim majority population had a significant negative influence on democratization/liberalization for both consolidated democratic regimes and consolidated authoritarian regimes. That is, it prolonged the longevity of consolidated authoritarian regimes and shortened the longevity of consolidated democratic regimes. A Christian majority population had the exact opposite effect. This variable shortened the longevity of consolidated authoritarian regimes and prolonged the longevity of consolidated democratic regimes. This effect was also seen in the middle ground of countries where a Christian majority population was associated with increased probability of "failure" to democracy. As can be seen in Table 3-11 the results are substantially mirrored in the three subdivisions of this variable, Protestant, Catholic, and Eastern Orthodox majority populations.

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In the subsequent analyses only the Christian majority variable and the Muslim majority variable were carried over. The influence of Islam on democratization was a factor of high interest. Christianity was retained as the conceptual equivalent of Islam. The effects of the variables for Hindu and Buddhist majority populations were negligible and as such they also were not carried over into subsequent multivariate analyses.

Summary

In this chapter results of the bivariate analysis were presented. For the bivariate analysis Kaplan-Meier estimation was used to provide general overview information on the nature of the survivor function for each regime-failure type, and describe the individual effect of each of twenty-one dichotomized independent variables on the survival function of each of the four regime-failure types. These effects were then used to assess the influence of twenty-one factors on democratization across the regime types.

The main finding of the bivariate analysis was the significant positive effect of the US military engagement variables across regime types on democratic trends and processes. Of particular note was the highly significant influence of all five US military engagement variables on the liberalization of consolidated authoritarian regimes. Based on the bivariate results, US military engagement on a number of levels would seem to be an important factor in helping to liberalize the most hardcore authoritarian states. This is an important finding in that it lends credence to foreign policy initiatives that promote military engagement as a national security strategy. The results also provide preliminary evidence in support of normative persuasion and social interaction as important hegemonic socialization mechanisms affecting the political identity of states. We now

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proceed to the multivariate portion of the analysis and test whether these effects remain

when accounting for the simultaneous influence of many factors.

CHAPTER FOUR

COX PROPORTIONAL HAZARD MODELING:
THE METHODOLOGY

The descriptive statistics and bivariate analyses in the previous chapter are useful

in helping to understand the individual influence of the independent variables of interest

on the survival probability of different types of regimes. The analysis of the survival

functions based on Kaplan-Meier estimation provided an initial idea of how US military

engagement might influence or be associated with either liberalizing or authoritarian

trends in different types of regimes. In this chapter and the next I proceed to more

complex multivariate analyses to examine the relationship of each of my independent

variables to the nature of survival for each of the four regime-failure types but now with

the integrated influence of each independent variable taken into account. Cox

proportional hazard regression modeling is the methodological tool I chose as the most

appropriate for conducting these analyses.

In this chapter I begin with a general methodological overview of Cox

proportional hazard regression modeling focusing on the appropriateness of this

methodology to the research questions addressed in my study. I then proceed to a

detailed discussion of covariate selection, model construction, the diagnostic tests I used

to ensure correct model specification, and my methods of model and covariate

significance assessment. This chapter serves as a methodological overview for my multivariate analyses. The results from the Cox proportional hazard regression modeling for each regime-failure type are presented in Chapter Five.

Cox Proportional Hazard Regression Modeling

In this study Cox proportional hazard regression modeling is the main analysis technique used to assess the simultaneous influence of several independent variables, or covariates, on the hazard function of each regime-failure type. The hazard function describes the risk for a subject to fail at any one point in time. It is "the instantaneous rate of failure" measured in the units of the variable per time interval[1] which in this study is one year. In a colloquial sense it is the converse of the survival probability discussed in the previous chapter. For any subject in time, a higher survival probability reflects a lower hazard rate. The Cox proportional hazard model, as the name would suggest, is based on the idea that one subject's hazard function is proportional to any other subject's hazard function.

Cox proportional hazard modeling is a semi-parametric regression technique meaning that "the duration times are parameterized in terms of a set of covariates, but the particular distributional form of the duration times is not parameterized."[2] In a Cox regression of survival data the modeling results are obtained through partial likelihood calculations based on the order in which failures occur. As such this modeling technique

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[1] Mario A. Cleaves, William W. Gould, and Roberto G. Gutierrez, *An Introduction to Survival Analysis Using Stata*, College Station, Texas: Stata Corporation, 2002, 8.
[2] Janet M. Box-Steffensmeier and Bradford S. Jones, *Timing and Political Change: Event History Analysis in Political Science*, manuscript of forthcoming book to be published by University of Michigan Press, <psweb.sbs.ohio-state.edu/grads/kscott/jansbook> (4 April 2003), 99.

can provide information on the influence and significance of the covariates over time, but does not account for how the underlying survival or hazard function might be influenced by time itself.

Cleaves, Gould, and Gutierrez (2002) describe the "Cox regression results [as] based on forming, at each failure time, the *risk pool* or *risk set*, the collection of subjects who are at risk of failure, and then maximizing the conditional probability of failure. The times at which failure occur are not relevant in a Cox model – the ordering of the failures is."[3] David Hosmer and Stanley Lemeshow (1999) pointed out that Cox proportional hazard regression modeling provides information on the systematic component within the data, that is to say the influence exerted by the covariates on the survival function, but makes no assumptions nor accounts for the error component.[4] In a Cox model there is no error term to capture the nature of nonsystematic variation, and all systematic variation is measured in the coefficients of the covariates.

In the case of survival analysis what is meant by "nonsystematic component" is any underlying time dependency. In ordinary least squares regression the nonsystematic component is the error term that is assumed to be normally distributed, thus ideally having no systematic effect on the results. However, in survival analysis the assumption of normality cannot easily be made because the underlying distribution is often markedly nonsymmetric and often does not come close to approximating a normal distribution.[5] For this reason in the parametric modeling of survival data the normal distribution cannot

[3] Mario A. Cleaves, William W. Gould, and Roberto G. Gutierrez, *An Introduction to Survival Analysis Using Stata*, 126. Italics are in the original.
[4] David W. Hosmer, Jr. and Stanley Lemeshow, *Applied Survival Analysis: Regression Modeling of Time to Event Data*, New York: John Wiley & Sons, 1999, 89.
[5] An excellent short description of this issue is in Mario A. Cleaves, William W. Gould, and Roberto G. Gutierrez, *An Introduction to Survival Analysis Using Stata*, 2.

be assumed, and any nonsymmetric distribution that is chosen exerts an influence on the parametric survival analysis regression results. If time dependency is important, parametric regression modeling techniques for survival data could be used to incorporate assumptions about the time dependent functional form of the underlying hazard. A parametric model of some sort would have been an alternative choice as my analytical methodology for multivariate analyses. There were two reasons why Cox semi-parametric modeling was preferred to parametric modeling.

First, Cox models may be less efficient, but without firm knowledge of the underlying functional form there is no risk of choosing an incorrect parameterization that would decrease accuracy. In the choice between semi-parametric and parametric modeling the risks of inaccuracy need to be balanced against the effect of decreased efficiency. Parametric modeling results are dependent on the parameterization chosen. If the underlying function that is chosen for the model were the true underlying functional form, then parametric modeling would provide a better fitting model and hence provide accurate results. However because the parameterization that is chosen significantly influences the modeling results, if the underlying functional form is not known with confidence and is chosen poorly, the model will be less accurate than using a semi-parametric modeling technique such as Cox proportional hazard regression.

In considering my data, there was no reason to expect that one functional form rather than another represented the true underlying time dependency. A Cox model may be less efficient, but there was no risk of choosing an incorrect parameterization of the functional form of the time dependency that could have led to decreased accuracy. Janet

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Box-Steffensmeier and Bradford Jones (forthcoming) argued that the semi-parametric nature of the Cox model makes it a much more preferable tool for applications such as my study because assumptions, which could be wrong, do not need to be made.[6] The popularity and usefulness of the Cox model is apparent from the many texts on the subject. Biostatisticians Terry Therneau and Patricia Grambsch (2000) noted that "the Cox proportional hazard model has become by a wide margin the most used procedure for modeling the relationship of covariates to a survival or other censored outcome."[7]

The second reason I preferred Cox models to parametric modeling was that the primary focus of my analyses was on the effect of the covariates on the failure event, not on the nature of the underlying time dependency. As Hosmer and Lemeshow pointed out: "In essence, [in parametric modeling] we are trying to accomplish two goals simultaneously. The model must describe the basic underlying distribution of survival time (error component), but it must also characterize how that distribution changes as a function of the covariates (systematic component). In some applied settings it is important to use a model that accomplishes both goals, but in other settings a model that address only the latter one is sufficient."[8] Hosmer and Lemeshow go on to illustrate, noting that "... we are often in a setting where we may wish to see if a combination of drug therapies improves survival of HIV+ patients when compared to a single drug therapy. In this case, a complete description of survival time is of secondary importance to a description of how the new therapy modifies the survival experience relative to the

[6] Janet M. Box-Steffensmeier and Bradford S. Jones, *Timing and Political Change: Event History Analysis in Political Science*, 95-100.
[7] Terry M. Therneau and Patricia M. Grambsch, *Modeling Survival Data: Extending the Cox Model*, New York: Springer-Verlag, 2000, 39.
[8] David W. Hosmer, Jr. and Stanley Lemeshow, *Applied Survival Analysis: Regression Modeling of Time to Event Data*, 89.

old one."[9] Political scientists such as Box-Steffensmeier and Jones have convincingly argued that "most research questions in political science should be chiefly concerned with getting the appropriate theoretical relationship 'right,' and less concerned with the specific form of the duration dependency, which of course is *highly* sensitive to the form of the posited model."[10]

Box-Steffensmeier and Jones' argument applies to my study where the hypothesized "therapeutic" effect of the US military engagement covariates is the focus. The covariates in my study might be likened to the various drug therapies in the Hosmer and Lemeshow example presented above. In this study the focus is on whether and how (meaning positively or negatively) the covariates are associated with the longevity of the regime-failure types. That is, the focus might be thought of as how specific "therapies" or inherent characteristics are associated with the risk of failure of different types of regimes. Thinking back to the hypotheses, my study investigates to what extent and under what conditions US military engagement activities, as well as other factors of interest, are associated with the survival of different regime types. Whatever the nature of the survival experience over time, my study is focused on the differential influence exerted by each covariate.

The "therapies" or inherent characteristics that are represented by each covariate link directly to policy relevant questions such as: Are US military engagement activities associated with preferred strategy outcomes such as furthering democratization or

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[9] David W. Hosmer, Jr. and Stanley Lemeshow, *Applied Survival Analysis: Regression Modeling of Time to Event Data*, 89.
[10] Janet M Box-Steffensmeier and Bradford S. Jones, *Timing and Political Change: Event History Analysis in Political Science*, 96. Italics are in the original.

liberalization? Are Islamic countries, as some analysts have suggested, more likely to fail as democracies in comparison to predominantly Christian countries? Are consolidated authoritarian countries that have US military troops stationed on their territories more likely to be able to maintain themselves as consolidated authoritarian states?

Cox proportional hazard regression modeling is a good choice for my multivariate analyses providing the desired information on the effect of the covariates without the necessity of assuming any particular functional form for the underlying time dependency. There is the possibility of less efficiency than if the true underlying time dependency was known and a correct parametric model was used, but the risk of assuming an incorrect parameterization is avoided. It is important to note that with the use of Cox semi-parametric modeling if covariates are found to be significant despite the possibility of having a less efficient model, then they are significant *despite* any loss of efficiency.

Overview of Model Construction

All of the statistical calculations for the Cox proportional hazard regression modeling were done using the commands and diagnostic tests of STATA version 8.0. The basic models that I used for each regime-failure type were constructed in an identical manner through three phases of multivariate modeling and assessment. In the first phase a basic model was constructed, and then each of the US military engagement variables added individually. In the second phase all of the US military engagement variables were included in the basic model at the same time. In the third phase US military engagement

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composite variables were constructed and entered into the basic model. Results of these phases are presented in the next chapter, however before proceeding to a discussion of the results, in this chapter I first provide an overview of model construction, the diagnostics used to check model specification, and my methods of model and effects assessment.

In the construction of Cox proportional hazard models the ordering of the failure times is the basis on which the Cox regression results are calculated. Because ordering matters, it also matters how ties, that is when subjects fail at the same time, are handled. In my study all Cox regression modeling used the Efron method to handle ties rather than the STATA default of the Breslow method. The Efron method accounts for all possible risk set combinations when a tie occurs and as such is more accurate than the Breslow method. In assessing possible methods used to handle tied failures, Hosmer and Lemeshow noted "given a choice, one would prefer to use the Efron approximation, but in this example, the Breslow approximation yields acceptably close estimates."[11] The more complex statistical calculations involved with using the Efron method were easily handled using STATA, so there was good reason to use the more precise calculation.

In my Cox proportional hazard regression models the first step was to determine the covariates to be included in what I call the basic model. The basic model included the covariates hypothesized to have a significant influence on democratization but did not include the US military engagement covariates. These were later added in the phases mentioned above. Two factors were used to determine which covariates should form the

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[11] David W. Hosmer, Jr. and Stanley Lemeshow, *Applied Survival Analysis: Regression Modeling of Time to Event Data,* 107.

basic model. The first factor was hypothesized relationships and theoretical findings of past studies discussed in Chapter One that I subsequently assessed using Kaplan-Meier estimation. The second factor was the Kaplan-Meier estimation results.

In the previous chapter Kaplan-Meier estimation was used to describe how the survival function of each regime-failure type was altered when the influence of each of twenty-one independent variables was considered separately. Some of those independent variables had little impact, and some were alternative measures of the same concept. This was fine when the estimation calculations only dealt with each of them separately, however in the multivariate analysis it was necessary to limit inclusion to fewer variables.

Percent world democracy was excluded because the measure was invariant for all countries in the same year. Other measures were conceptually overlapping such as the variables indicating Catholic and Protestant majority populations that I excluded in the multivariate analysis because I chose to retain the indicator for Christian majority. I chose to retain the Christianity covariate because it was conceptually parallel to the indicator for Muslim majority population that was a covariate of high interest. The Buddhist, Hindu, and Orthodox religious variables were excluded based on marginal relevance and no previous theoretical argument for their inclusion.[12]

In the Kaplan-Meier analyses there were two variables that served as alternative measures of ethnic diversity. In the multivariate portion of my study I chose to retain the variable measuring the percent of the total population that is of the largest ethnic group, rather than the Roeder ethnolinguistic fractionalization (ELF) measure. There were two

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[12] During the multivariate analysis phases, I randomly inserted these variables into several Cox models and the variables were not found to be significant.

reasons for this decision. First, the extensive interpolation used to construct the ELF measure necessarily gave it a time dependency component that contributed to it violating the proportional hazard assumption necessary for model construction. The percent of the largest ethnic group was not interpolated, and thus did not present this problem. Second, the ELF measure contained only one researched value for the time span 1972-2000, the ELF85 measure; but, the largest ethnic group measure contained two researched values, one for the 1970's and one for the 1990's.

The five dichotomous measures of US military engagement and the nine control measures that were retained for multivariate analysis are shown in the table below.

TABLE 4-1
Variables Forming the Initial Basis For Multivariate Modeling

Concept Operationalized	Variable Name	Variable Type
IMET participant	IMETyesno	Indicator
US military stationed there	Ally	Indicator
Security alliance with US	USmilyesno	Indicator
US military aid recipient	milaidyesno	Indicator
US military sales recipient	milsalesyesno	Indicator
Soviet foreign assistance	soviet_foreign_asst	Indicator
US economic aid per capita	USeconaid_norm	Continuous
New country since 1945	newc	Indicator
Former British colony	britcol	Indicator
Trade openness	open_i	Continuous
Level of economic development	GDP_PPP_per_capita	Continuous
Ethnic diversity	Ethnic_gp	Continuous
Muslim majority	muslim_majority_yesno	Indicator
Christian majority	christian_majority_yesno	Indicator

Except as discussed below, all of the covariates listed in Table 4-1 formed the models for each regime-failure type that were used in the Cox proportional hazard regression modeling analyses. The nine control measures formed what I describe below as the basic model. In this study I use the term "basic model covariates" to refer specifically to this group of nine covariates as separate from the US military engagement covariates.

In the case of the middle ground to democracy analyses it was necessary to use a time transformation of britcol because the covariate displayed an unacceptable level of time dependency, violating the proportional hazard assumption. For this data set britcol was transformed by multiplying it by the natural logarithm of time. In the consolidated authoritarian analyses, britcol once again displayed an unacceptable level of time dependency. In this data set it was removed as a covariate because it greatly violated the proportional hazard assumption and in the initial Kaplan-Meier estimation britcol had been determined to have no significant effect on the survival function for consolidated authoritarian regimes. This result can be reviewed in Table 3-5. Thus, it was dropped from the data set for lack of significance as well as to avoid model misspecification.

Additionally, in the consolidated authoritarian data set the variables for trade openness and US military troops stationed exhibited a moderate level of time dependency that was of concern for modeling assumptions and specification. The trade openness variable was transformed by multiplying it by the natural logarithm of time, whereas the variable USmilyesno was replaced by the continuous variable USMil_normforeignMil that is the number of troops stationed in the country normalized by the size of the country's military. Neither of these two substituted covariates was found to be

individually significant in the models for the consolidated authoritarian regime-failure type.

There were several diagnostics used to test for violations of the proportional hazard assumption and hence model misspecification. The tests chosen were based primarily on the recommendations of two reference texts, Hosmer and Lemeshow (1999) and Cleaves, Gould, and Gutierrez (2002). The first is a reference text from biostatistics; the second is a specialized survival analysis manual published by the STATA Corporation. Martingale residuals were examined for all covariates in all data sets, but these proved less useful than an examination of individual covariate plots of the scaled Schoenfeld residuals. Schoenfeld residuals plots were constructed and examined for all covariates when the covariate's individual test for the proportional hazard assumption indicated that the covariate might exhibit some time dependency.[13] Visual tests were important in judging to what extent the functional form of the individual covariate was, if at all, time dependent.

As noted above, a few covariates did exhibit significant time dependency and were transformed to meet proportional hazard assumptions. In some cases a visual examination of the Schoenfeld residual plot indicated a zero slope for the majority of time with only an indication of time dependency for a very few years, such as during the initial years under observation. In such cases a judgment was made based on the effect the covariate had on the global test of the proportional hazard assumption when it was included in the model. In deciding whether to transform a variable, the extent of time

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[13] In STATA version 8.0 the command used was stphtest. The functional form of the covariate was examined further using plots of the scaled Schoenfeld residuals when Prob>chi2 for the individual covariate was less then 0.10.

dependency was balanced against the desire to maintain as much consistency of covariates between data sets as was possible. A time transformation of the covariate was usually not undertaken if the extent of time dependency was judged to be marginal. The global test of the proportional hazard assumption was the final arbiter of such decisions and a significance level of 0.10 was used for all such analytic assessments. All of the models discussed in this study were well within tolerance for the global test of the proportional hazard assumption. The global tests of the proportional hazard assumption for all models are reported in the result tables presented in Chapter Five.

As mentioned at the start of this section, the basic model included the covariates hypothesized to have a significant influence on democratization but did not include the US military engagement covariates. These were added using three inclusion methods, each covariate was added: (1) individually, (2) as a group of five covariates, and (3) as components of composite measures. Although there was minimal collinearity[14] between the US military engagement variables as was previously shown in Table 2-4, composite measures were used to mitigate collinearity effects. Composites were constructed to represent two concepts of US military engagement activities: military-to-military personnel contacts and military financial exchanges. The construction methods for the composite measures are shown below in Table 4-2. The indicator variables used to construct the dichotomous composites were presented in Table 4-1. Three continuous variables USmil_norm_scaled, USmilasst_norm_scaled, and USmilsales_norm_scaled were used to construct continuous composites. These three measures were based on the

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[14] William E. Griffiths, R. Carter Hill, and George C. Judge, *Learning and Practicing Economics*, New York: John Wiley & Sons, 1993, 435, define a correlation of 0.8 or greater to indicate a strong linear relationship.

variables: USmil_norm, USmilasst_norm, and USmilsales_norm which are respectively:

the number of US military troops stationed in a country normalized by the total

population of the country, US military assistance normalized by the country's gross

domestic product, and US military sales normalized by the country's gross domestic

product. These variables were rescaled from 0-1 based on their values in each of the four

data sets.[15]

TABLE 4-2
US Military Engagement Composite Measures

Composite Measures	Method of Construction
Dichotomous	
Military Contact	IMETyesno + USmilyesno + Ally
Military Finance	milaidyesno + milsalesyesno
Military Contact less Ally	IMETyesno + USmilyesno
Continuous	
Military Contact	IMETyesno + USmil_norm_scaled + Ally
Military Finance	USmilasst_norm_scaled + USmilsales_norm_scaled
Military Contact less Ally	IMETyesno + USmil_norm_scaled

Overview of Model and Covariate Assessment

The goal of the multivariate Cox modeling was to assess whether inclusion of the

US military engagement covariates significantly altered the longevity of the different

types of regimes while accounting for other relevant factors. An ancillary task was to

report the effects of the basic model covariates. Cox proportional hazard regression

results are reported for each regime-failure type based on five modeling choices: (1)

basic model, (2) basic model with each military engagement covariate added

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[15] The calculation is: $(x - \text{minimum value of } x) / (\text{maximum value of } x - \text{minimum value of } x)$.

individually, (3) full model, meaning the basic model with all five military engagement covariates added simultaneously, (4) basic model with dichotomous composite military covariates, and (5) basic model with continuous composite military covariates.

A decision rule that was as objective as possible and replicable was needed to make the final assessment of the results for each regime-failure type. For the final assessment of covariate effect the following criteria were used. First, a basic model covariate was assessed as overall significant when its effect was the same in the Basic Model, Full Model and across the majority of the remaining nine models. Second, a US military engagement covariate was assessed as significant when it exerted a consistently significant effect across two of the three model types. That is to say when it was significant in two of the three cases: (1) when added individually, (2) in the full model, or (3) as a component of the composite measures. Third, an assessment of "no effect" was made when any covariate was found to be not significant across all model formulations. Fourth, some covariates did not meet these decision criteria. Some of the covariates were sporadically significant and as such they could not be assessed as either significant or having no effect. In this situation their effect was assessed as "ambiguous or inconsistent." It should be noted that "no effect" was a fundamentally different assessment category than that of "ambiguous or inconsistent" with the latter implying an effect that is not well understood based on the models presented, whereas the former meant that there was definitively no effect found.

Several methodological tools were used to assess the effect of the covariates. First, significance results are reported for all covariates with a significance level of 0.20

used for all analytic assessments.[16] Second, the sign of the coefficient indicating the direction of effect was examined. Third, likelihood ratio tests were used to determine whether the models that included US military engagement covariates were significantly different from the basic model that did not include them. As will be discussed in the results, inclusion of covariates even when individually significant did not necessarily mean that the full model was statistically distinguishable from the basic model. Thus, the likelihood ratio test was useful in making an additional assessment of the relevance of US military engagement covariates beyond solely considering their individual statistical significance. A significance level of 0.10 was used for all analytic assessments using the likelihood ratio test.

For the Cox proportional hazard modeling I was primarily concerned with assessing whether US military engagement activities were significantly associated with the increased or decreased survival probability of different regime types. I am less confident in saying that survival probability or regime longevity was increased or decreased by any precise percentage. Thus, the initial assessment of relevance was done as described above based on an assessment of (1) significance and (2) direction of influence. As such, the results are reported in terms of signs of the coefficient rather than hazard ratios. A positive coefficient indicated a covariate that had the effect of increasing the hazard for the regime-failure type, while a negative coefficient indicated a covariate that decreased the hazard. As discussed in the previous chapter, a positive or negative

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[16] David W. Hosmer, Jr. and Stanley Lemeshow, *Applied Survival Analysis: Regression Modeling of Time to Event Data,* 184, argue for less stringent significance levels based on the application involved. In the results reported in this study significance levels are always included should the reader desire to see the effect of choosing a more stringent criteria.

influence on the hazard function took on different meanings for democratization trends dependent on what constituted "failure" for each regime-failure type. I discuss my overall assessment of the effects of each covariate on democratic and authoritarian trends across regime type in Chapter Six. At that time I present hazard ratios to provide an idea of the substantive effect of the statistically significant covariates.

Summary

In this chapter I provided a methodological overview of Cox proportional hazard regression modeling methodology that I used for the multivariate analyses discussed in the following chapter. I explained the appropriateness of this methodology to the research questions addressed in my study, provided a detailed discussion of covariate selection, model construction, misspecification and diagnostic tools used, and criteria that I used in the assessment process. With these methodological points in mind, we now turn to the results of the Cox proportional hazard regression modeling.

CHAPTER FIVE

COX PROPORTIONAL HAZARD MODELING:
THE RESULTS

In this chapter I present the results of my Cox proportional hazard regression

analyses for each regime-failure type. The presentation begins with a table for each

regime-failure type that shows seven modeling results: the basic model, five models

for the inclusion of each US military engagement indicator covariate separately, and

the full model showing all five US military engagement covariates added

simultaneously. For each regime-failure type it is useful to see these seven models

together in one table in order to assess the effect of the covariates and the consistency

of the Cox proportional hazard regression results. Of greatest interest for the

purposes of data presentation are the sign of the coefficient indicating the direction of

effect on the hazard function and the significance level; these are reported in the

following tables. The detailed regression results with coefficient values are included

as Appendices R through U. In the following discussions the term "basic model

covariates" is used to refer to the nine covariates that comprise the basic model; the

term does not refer to any of the US military engagement covariates.

After the presentation of results for the first three modeling phases, the

remaining two modeling phases, in which the dichotomous and continuous composite

US military engagement covariates were used, are incorporated into the discussion

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and the effects of the basic model covariates across the five phases are analyzed. All statistical calculations discussed in this chapter were done using STATA version 8.0. In Chapter Six the results discussed in this chapter are integrated across regime types and the implications for democratization both within and across regime-failure types are discussed.

Consolidated Democracies: Cox Modeling Results

The seven models comprising results of the first three phases of Cox proportional hazard regression modeling for the consolidated democracy regime-failure type are shown in Table 5-1 on the next page. As can be seen, all seven models were well above the 0.10 tolerance for the global proportional hazard assumption. The likelihood ratio test approached the 0.10 tolerance, yet it can be concluded that the full model that included the US military engagement covariates was significantly different from the basic model that did not include them.

There are three aspects of these seven models that were immediately very striking. First, all coefficient signs for each individual covariate, whether significant or not, were consistent across all seven models providing a high level of confidence in assessing the direction of effect on the hazard function of each covariate. Second, in the full model all but one of the basic model covariates (newc) was significant. This is not striking *per se* because these were the factors identified by both theory and past research to have a significant influence on democratization; however, the results were striking when compared with the results for the other three regime-failure types

TABLE 5-1
Consolidated Democracies: Cox Proportional Hazard Models

	Basic Model	Model 1	Model 2	Model 3	Model 4	Model 5	Full Model
IMETyesno	-	(+) .813	-	-	-	-	(+) .046
Ally	-	-	(-) .389	-	-	-	(-) .559
USmilyesno	-	-	-	(-) .082	-	-	(-) .069
milaidyesno	-	-	-	-	(-) .205	-	(-) .017
milsalesyesno	-	-	-	-	-	(+) .918	(+) .737
soviet_foreign_asst	(+) .045	(+) .072	(+) .031	(+) .020	(+) .022	(-) .051	(+) .029
USeconaid_norm	(+) .275	(+) .270	(+) .239	(+) .207	(+) .351	(+) .277	(+) .156
newc	(+) .997	(+) .115	(+) .503	(+) .222	(-) .073	(-) .106	(+) .539
britcol	(-) .086	(-) .126	(-) .127	(-) .117	(-) .041	(-) .098	(-) .107
open_i	(-) .769	(-) .755	(-) .721	(-) .274	(-) .804	(-) .779	(-) .182
GDP_PPP_per_capita	(-) .011	(-) .011	(-) .010	(-) .013	(-) .007	(-) .011	(-) .002
Ethnic_gp	(+) .323	(+) .311	(+) .317	(+) .285	(+) .341	(+) .344	(+) .146
muslim_majority_yesno	(+) .018	(+) .018	(+) .013	(+) .018	(+) .014	(+) .019	(+) .006
christian_majority_yesno	(-) .065	(-) .065	(-) .040	(-) .034	(-) .042	(-) .063	(-) .011
Global PH test	0.8589	0.9006	0.9175	0.7271	0.9240	0.7479	0.8776
Likelihood ratio test							0.0860

The covariate results are reported as: (sign of coefficient) significance P>|z|. The global test of the proportional hazard assumption and the likelihood ratio test are reported for each model, as Prob>chi2. Detailed results with coefficient values are Appendix R.

where not as many basic model covariates were found to be significant either in the full model or across all models.

A conclusion that might be drawn is that past research that has focused on effects of these factors on democratic governments have indeed identified many significant factors associated with democracies; however, these factors may or may not be generalizable to other types of regimes. It might also indicate a weakness in studies that use the dichotomization of democracy-nondemocracy as their measure of regime type. Such a dichotomization necessarily includes, within one or both of the dichotomous categories, regimes that are more accurately characterized as of the middle ground, not truly being either authoritarian or democratic in the consolidated sense. This conclusion is suggested by the results of this study where regime type was narrowed to consolidated democracies and consolidated authoritarian states, removing the middle ground of regimes that are neither and considering them separately.

For consolidated democracies the results for the basic model covariates across all five modeling phases encompassing all eleven different model formulations indicated consistent and consistently significant results for five of the nine basic model covariates. Receipt of Soviet foreign assistance, having a majority Muslim population, and having a Christian majority population increased the hazard for consolidated democracies; while previous status as a British colony and a higher level of economic development decreased the hazard. A simplified summary of these results is shown below in Table 5-2; detailed results supporting this table are included in Appendix R and Appendix V.

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TABLE 5-2
Consolidated Democracies: Effect of Basic Model Covariates

Basic Model Covariate	B	1	2	3	4	5	F	D1	D2	C1	C2
soviet_foreign_asst											
USeconaid_norm	0	0	0	0	0	0		0	0	0	0
newc			0	0			0	0	0		0
britcol	-	-	-	-	-	-	-	-	-	-	-
open_i	0	0	0	0	0	0	-	0	0	0	0
GDP_PPP_per_capita	-	-	-	-	-	-	-	-	-	-	-
Ethnic_gp	0	0	0	0	0	0		0	0		
muslim_majority_yesno											
christian_majority_yesno											

+ indicates a significant positive coefficient, - indicates a significant negative coefficient, 0 indicates a coefficient that was not significant. Significance level was 0.20. B refers to the Basic Model, 1-5 refer to the five models where each US military engagement covariate was added separately, F refers to the Full Model, D1 and D2 refer to the two models with dichotomous composite covariates, and C1 and C2 refer to the two models with continuous composite covariates of the US military engagement measures.

The third striking aspect of the results in Table 5-1 was the somewhat ambivalent effect of the covariates operationalizing US military engagement activities. Three US military engagement covariates were found to be significant in the full model, however they individually exerted opposite effects on the hazard function. Participation in IMET increased the hazard while stationing of US military troops and receipt of US military aid decreased the hazard. Only one of the US military engagement covariates, US military troops stationed in the country was significant when the covariates were added alone to the basic model.

These individual covariate findings were consistent with the findings for the Cox proportional hazard models that incorporated composite measures of US military engagement activities. Table 5-3 on the next page presents Cox modeling results from the final two modeling phases in which US military engagement composite

measures were included in the basic model. As can be seen only the continuous

composite measure for military finance was significant. However, it is also important

to recognize that the likelihood ratio tests indicated that none of the models

incorporating the composite measures were statistically distinguishable from the basic

model that included no US military engagement covariates.

TABLE 5-3
Consolidated Democracies: Effect of Composite Measures

Composite Covariates	D1	D2	C1	C2
Military contact	0	■	0	■
Mil contact less Ally	■	0	■	0
Ally	■	0	■	0
Military finance	0	0	0	-
Likelihood ratio test	0.4990	0.6879	0.3484	0.3517

Detailed results supporting this table including coefficient and significance
values are in Appendix V. D1 and D2 refer to the two models with dichotomous
composite covariates, and C1 and C2 refer to the two models with continuous
composite covariates of the US military engagement measures.
The " +" signifies a positive effect on the hazard; the " –" signifies a negative
effect on hazard. The number of " +" and " –" symbols indicate the significance
level.
0 indicates no statistically significant effect.
Blacked-out squares indicate the covariate was not used in that model formulation.

My overall assessment of the effect of each covariate on the hazard function

for consolidated democratic regimes is shown on the next page in Table 5-4. This

assessment is based on the criteria discussed in Chapter Four. A basic model

covariate was assessed as overall significant when its effect was the same in the basic

model, full model and across the majority of the remaining nine models. A US

military engagement covariate was assessed as significant when it exerted a

consistently significant effect across two of the three model types; that is to say when

added (1) individually, (2) in the full model, or (3) as a component of the composite

measures. For example, the covariate indicating IMET participation was assessed as

ambiguous because it was only found significant in the full model; whereas the

covariate indicating the presence of US troops was assessed as negative because it

was consistently significant when added alone and when added to the full model.

An assessment of "no effect" is made when a covariate was found to be not

significant across all model formulations. It should be noted that this is a

fundamentally different assessment category than that of "ambiguous or inconsistent"

with the latter implying an effect that was not well understood based on the models

presented, whereas the former indicates that there was definitively no effect found.

Two of the US military engagement covariates fell into the "no effect" category:

security alliance with the United States and US military sales recipient. Both of these

measures were not significant when added alone to the basic model, when added to

the full model, or as a component of a composite measure.

Overall I conclude that for consolidated democracies the effect of US military

engagement activities was weak to marginal. The strongest result was in the full

model where the covariate indicating US military troops stationed in the country was

found significantly associated with a decreased hazard, that is to say with increased

longevity of consolidated democratic regimes. Additionally two of the US military

engagement covariates, security alliance with the United States and recipient of US

military sales, were found to have no effect. The results are summarized below in

Table 5-4. The implication of these results for democratization will be discussed in Chapter Six.

TABLE 5-4
Consolidated Democracies: Covariate Effect on the Hazard Function

Concept Operationalized	Overall Assessment
IMET participant	ambiguous or inconsistent
US military stationed there	negative
Security alliance with US	no effect
US military aid recipient	ambiguous or inconsistent
US military sales recipient	no effect
Soviet foreign assistance	positive
US economic aid per capita	ambiguous or inconsistent
New country since 1945	ambiguous or inconsistent
Former British colony	negative
Trade openness	ambiguous or inconsistent
Level of economic development	negative
Lack of ethnic diversity	ambiguous or inconsistent
Muslim majority	positive
Christian majority	positive

Consolidated Authoritarian States: Cox Modeling Results

The seven models comprising results of the first three phases of Cox proportional hazard regression modeling for the consolidated authoritarian regime-failure type in Table 5-5 on the next page. As can be seen, all seven models were within the 0.10 tolerance for the global proportional hazard assumption. The likelihood ratio test was highly significant indicating that the full model that included

TABLE 5-5
Consolidated Authoritarian States: Cox Proportional Hazard Models

	Basic Model	Model 1	Model 2	Model 3	Model 4	Model 5	Full Model
IMETyesno	-	(-) .000	-	-	-	-	(+) .871
Ally	-	-	(+) .000	-	-	-	(-) .068
USMil_normforeignMil	-	-	-	(+) .207	-	-	(+) .207
milaidyesno	-	-	-	-	(-) .000	-	.120
milsalesyesno	-	-	-	-	-	(-) .004	(+) .404
soviet_foreign_asst	(-) .778	(+) .788	(+) .526	(-) .789	(+) .756	(-) .904	(+) .437
USeconaid_norm	(-) .069	(+) .369	(+) .387	.157	(+) .385	(-) .079	(+) .674
newc	(-) .006	(-) .001	(-) .178	(-) .008	(-) .001	(-) .010	(-) .029
opentimeslntime	(-) .636	(-) .504	(+) .952	(-) .717	(-) .457	(-) .663	(-) .748
GDP_PPP_per_capita	(-) .396	(-) .270	(-) .315	(-) .372	(-) .817	(-) .228	(-) .598
Ethnic_gp	(-) .623	(-) .680	(-) .300	(-) .596	(-) .708	(-) .610	(-) .425
muslim_majority_yesno	(-) .459	(-) .127	(-) .542	(-) .462	(-) .113	(-) .236	(-) .134
christian_majority_yesno	(+) .739	(-) .741	(-) .512	(+) .795	(-) .563	(+) .721	(-) .266
Global PH test	0.2374	0.6917	0.4614	0.2602	0.7440	0.4409	0.8798
Likelihood ratio test							0.0001

The covariate results are reported as: (sign of coefficient) significance P>|z|. The global test of the proportional hazard assumption and the likelihood ratio test are reported for each model, as Prob>chi2. Detailed results with coefficient values are Appendix S.

the US military engagement covariates was significantly different from the basic model.

There are three features of these seven models that are particularly noteworthy. First, the US military engagement covariates all had a positive coefficient indicating a positive effect on the hazard for consolidated authoritarian states. This result holds whether the US military engagement covariates were entered individually or as a group into the basic model. Second, when the US military engagement covariates were added individually four of five were highly significant with the fifth covariate very narrowly missing the significance level cut-off. Two of these covariates, security alliance with the US and receipt of US military aid, remained significant in the full model, once again with the covariate measuring US troops stationed in the country narrowly missing the significance level cut-off. This result is very different from the results just discussed for consolidated democracies.

The third noteworthy feature is the paucity of basic model covariates that exerted a significant influence on the hazard function for the consolidated authoritarian states. The lack of significant effect for most of the basic model covariates is also in sharp contrast to the modeling results for consolidated democracies where the majority of basic model covariates were consistently significant across all model formulations. For consolidated authoritarian regimes, the covariate indicating new country status (newc) was the only basic model covariate to consistently exert a significant influence across all seven models.

A simplified summary of the basic model covariate results across all modeling phases is shown below in Table 5-6; detailed results supporting this table are included in Appendix S and Appendix W. As just noted, for consolidated authoritarian states only one covariate, newc, was consistently significant across all eleven models. Two basic model covariates were significant in several of the models. The covariate indicating a Muslim majority population was significant in the full model as well as across four other model formulations. It exerted a negative effect on the hazard function, hence increasing the longevity of authoritarian regimes. Once again the paucity of significant covariate effects across all model formulations is in sharp contrast to the results seen previously in Table 5-2 for consolidated democratic regimes.

TABLE 5-6
Consolidated Authoritarian States: Effect of Basic Model Covariates

Basic Model Variable	B	1	2	3	4	5	F	D1	D2	C1	C2
soviet_foreign_asst	0	0	0	0	0	0	0	0	0	0	0
USeconaid_norm		0	0		0		0	0	0	0	0
newc	-	-	-	-	-	-	-	-	-	-	-
opentimeslntime	0	0	0	0	0	0	0	0	0	0	0
GDP_PPP_per_capita	0	0	0	0	0	0	0	0	0	0	0
Ethnic_gp	0	0	0	0	0	0	0	0	0	0	0
muslim_majority_yesno	0	-	0	0	-	0	-	-	-	0	0
christian_majority_yesno	0	0	0	0	0	0	0	0	0	0	0

+ indicates a significant positive coefficient, - indicates a significant negative coefficient, 0 indicates a coefficient that was not significant. Significance level was 0.20. B refers to the basic model, 1-5 refer to the five models where each US military engagement covariate was added separately, F refers to the Full Model, D1 and D2 refer to the two models with dichotomous composite covariates, and C1 and C2 refer to the two models with continuous composite covariates of the US military engagement measures.

The difference in covariate effects between these two regime-failure types is also very evident in the Cox proportional hazard regression modeling results for the composite US military engagement covariates. Table 5-7 below summarizes effects of the composite US military engagement covariates when they were included in the basic model.

TABLE 5-7
Consolidated Authoritarian States: Effect of Composite Measures

Composite Covariates	D1	D2	C1	C2
Military contact	+	■	++++	■
Mil contact less Ally	■	0	■	++++
Ally	■	+++	■	+++
Military finance	+++	+++	0	0
Likelihood ratio test	0.0000	0.0000	0.0000	0.0000

Detailed results supporting this table including coefficient and significance values are in Appendix W. D1 and D2 refer to the two models with dichotomous composite covariates, and C1 and C2 refer to the two models with continuous composite covariates of the US military engagement measures.
The " +" signifies a positive effect on the hazard; the " –" signifies a negative effect on hazard. The number of " +" and " –" symbols indicate the significance level.
++++ or ---- 1 percent
+++ or --- 5 percent level
++ or -- 10 percent level
+ or - 20 percent
0 indicates no statistically significant effect.
Blacked-out squares indicate the covariate was not used in that model formulation.

For consolidated authoritarian regimes, the majority of the composite measures were significant. Additionally, the likelihood ratio tests were highly significant across all of the model formulations. When considered in conjunction

with the results for the individual US military engagement covariates presented in Table 5-5, it is striking how many of the US military engagement covariates exerted a significant positive effect with significance extending across all ten model formulations for at least one of the US military engagement covariates. These results are in sharp contrast to those for consolidated democracies. This once again points to the differential influence exerted by factors on different regime types. The results in the Table 5-5 and 5-7 clearly point to a strong positive effect of the US military engagement covariates on the hazard function of consolidated authoritarian states.

My overall assessment of the effect of each covariate on the hazard function for consolidated authoritarian regimes is shown below in Table 5-8. For consolidated

TABLE 5-8
Consolidated Authoritarian States: Covariate Effect on the Hazard Function

Concept Operationalized	Overall Assessment
IMET participant	positive
US military stationed there	ambiguous or inconsistent
Security alliance with US	positive
US military aid recipient	positive
US military sales recipient	ambiguous or inconsistent
Soviet foreign assistance	no effect
US economic aid per capita	ambiguous or inconsistent
New country since 1945	negative
Trade openness	no effect
Level of economic development	no effect
Lack of ethnic diversity	no effect
Muslim majority	ambiguous or inconsistent
Christian majority	no effect

authoritarian states only one covariate, newc, was consistently significant across all eleven models. An assessment of no effect was applied to those covariates that were not significant across any model formulation. A notable difference in the assessment for consolidated authoritarian regimes from that for the consolidated democracies is that for consolidated authoritarian regimes five basic model covariates were assessed to have no effect.

A US military engagement covariate was assessed as significant when it exerted a consistently significant effect across two of the three model types. I assessed three of the five US military engagement covariates as significant. The covariate indicating IMET participation was assessed as significant based on its effect when added alone to the basic model as well as a component of the composite measures for military contact. The composite measures for military contact were significant in three of four formulations. The covariates indicating a security alliance with the US and receipt of US military aid were both significant when added individually to the basic model and within the full model. All three of these covariates were strongly associated with an increased hazard, meaning that they were strongly associated with decreasing the longevity of consolidated authoritarian regimes. The covariate indicating US military troop presence was assessed as ambiguous because it lacked significance when added alone or in the full model, although it may well have contributed to the significance of the military contact composite measures. Receipt of US military sales was also assessed as exerting an ambiguous effect because the composite for military finance was significant in its dichotomous formulation but not in its continuous formulation.

Overall for the consolidated authoritarian regime-failure type US military engagement activities were associated with an increased hazard. The results were robust holding up across all phases of Cox proportional hazard modeling. The assessment shown in Table 5-8 errors on the side of caution, nevertheless there is a stark difference in the significance results for the US military engagement covariates for consolidated authoritarian regimes as opposed to the effects discussed previously for consolidated democracies. The assessment of each covariate across regime-failure type with implications for past and future research is discussed in greater detail in the next chapter.

Middle Ground to Democracy: Cox Modeling Results

The results of the seven models of the first three phases of Cox proportional hazard regression modeling for the middle ground to democracy regime-failure type are in Table 5-9 on the next page. As can be seen, all seven models were well within the 0.10 tolerance for the global proportional hazard assumption. The likelihood ratio test was highly significant indicating that the full model was significantly different from the basic model.

A notable feature of these seven models is that all five of the US military engagement covariates were significant in at least one of the models. Four of the five were significant when added individually to the basic model, although only two were significant in the full model with the covariate for IMET participation narrowly missing the significance level cut-off. Four of the significant US military engagement covariates positively influenced the hazard function, that is to say they

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TABLE 5-9

Middle Ground to Democracy: Cox Proportional Hazard Models

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	Basic Model	Model 1	Model 2	Model 3	Model 4	Mode 5	Full Model
IMETyesno	-	(+) .146	-	-	-	-	(+) .204
Ally	-	-	(+) .037	-	-	-	(+) .502
USmilyesno	-	-	-	.001	-	-	.005
milaidyesno	-	-	-	-	(+) .541	-	(-) .143
milsalesyesno	-	-	-	-	-	.006	(+) .890
soviet_foreign_asst	(+) .239	(+) .156	(+) .210	(+) .306	(+) .200	(+) .223	(+) .399
USeconaid_norm	(+) .817	(+) .849	(+) .706	(+) .558	(+) .824	(+) .821	(+) .535
newc	(-) .430	(-) .471	(-) .987	(+) .673	(-) .453	(-) .600	(+) .569
britcol_lntime	(-) .058	(-) .044	(-) .083	(-) .024	(-) .053	(-) .052	(-) .028
open_i	(-) .113	(-) .135	(-) .145	(-) .118	(-) .125	(-) .116	(-) .111
GDP_PPP_per_capita				(+) .209			(+) .267
Ethnic_gp			(+) .249				(+) .283
muslim_majority_yesno	(+) .679	(+) .703	(+) .397	(+) .550	(+) .706	(+) .738	(+) .409
christian_majority_yesno	(+) .231	(+) .244	(+) .470	(+) .594	(+) .244	(+) .238	(+) .590
Global PH test	0.8141	0.7681	0.9152	0.9795	0.6481	0.8138	0.9930
Likelihood ratio test							0.0085

The covariate results are reported as: (sign of coefficient) significance $P>|z|$. The global test of the proportional hazard assumption and the likelihood ratio test are reported for each model, as Prob>chi2. Detailed results with coefficient values are Appendix T.

decreased chances of survival with chances of "failure" to consolidated democracy more likely. In the full model the fifth covariate, recipient of US military aid, was associated with increased longevity as a middle ground regime rather than earlier "failure" to consolidated democracy.

In assessing the effect of the basic model covariates Table 5-9 shows that the measures for former British colony and trade openness had a consistently significant negative coefficient across all seven model formulations. Three of the other basic model covariates were positively significant in some but not all of the models. To get a better idea of the effect of the basic model covariates, Table 5-10 below provides a simplified summary of results for the basic model covariates across all eleven modeling phases. Detailed results supporting this table are included in Appendix T and Appendix X.

TABLE 5-10
Middle Ground to Democracy: Effect of Basic Model Covariates

Basic Model Covariate	B	1	2	3	4	5	F	D1	D2	C1	C2
soviet_foreign_asst	0		0	0		0	0	0	0		
USeconaid_norm	0	0	0	0	0	0	0	0	0	0	0
newc	0	0	0	0	0	0	0	0	0	0	0
britcol_lntime	-	-	-	-	-	-	-	-	-	-	-
open_i	-	-	-	-	-	-	-	-	-	-	-
GDP_PPP_per_capita				0			0				
Ethnic_gp			0				0	0	0	0	0
muslim_majority_yesno	0	0	0	0	0	0	0	0	0	0	0
christian_majority_yesno	0	0	0	0	0	0	0	0	0	0	0

+ indicates a significant positive coefficient, - indicates a significant negative coefficient, 0 indicates a coefficient that was not significant. Significance level was 0.20. B refers to the basic model, 1-5 refer to the five models where each US military engagement covariate was added separately, F refers to the full model, D1 and D2 refer to the two models with dichotomous composite covariates, and C1 and C2 refer to the two models with continuous composite covariates of the US military engagement measures.

As can be seen, the covariates measuring status as a former British colony and level of trade openness were consistently significant negative influences on the hazard function of the middle ground to democracy regime-failure type, meaning that being a former British colony or having a higher level of trade openness had the effect of increasing survival as a middle ground regime rather than "failure" to consolidated democracy. A higher level of economic development, operationalized as GDP per capita, was a significant positive influence across nine of the eleven models; however, because it did not meet the stated criteria of significance within the full model it was overall assessed to have an "ambiguous" effect on the hazard. The covariate operationalizing ethnic diversity was significant only during the first two phases of modeling and not thereafter, while the covariate, receipt of Soviet foreign assistance, was sporadically significant. All of these effects are summarized at the end of this section of the chapter in Table 5-12 along with my overall assessment of the US military engagement covariates.

Turning to the US military engagement covariates, their effect individually was noted above; the composite covariate results are shown in Table 5-11 on the next page with detailed information available in Appendix X. It is noteworthy that the military contact composite measures, either with or without incorporating the Ally measure into the composite, were significant across all four models. And, just as noteworthy, the composite measure for military finance was not significant in any of the models. The effect of the covariate for a security alliance with the Untied States was assessed as ambiguous based on the results presented in both Table 5-9 as well as Table 5-11.

TABLE 5-11

Middle Ground to Democracy: Effect of Composite Measures

Composite Covariates	D1	D2	C1	C2
Military contact	++++	■	+++	■
Mil contact less Ally	■	++++	■	+
Ally	■	0	■	++
Military finance	0	0	0	0
Likelihood ratio test	0.0030	0.0072	0.0474	0.1003

Detailed results supporting this table including coefficient and significance values are in Appendix X. D1 and D2 refer to the two models with dichotomous composite covariates, and C1 and C2 refer to the two models with continuous composite covariates of the US military engagement measures. The " +" signifies a positive effect on the hazard; the " –" signifies a negative effect on hazard. The number of " +" and " –" symbols indicate the significance level.

++++ or ---- 1 percent
+++ or --- 5 percent level
++ or -- 10 percent level
+ or - 20 percent
0 indicates no statistically significant effect.
Blacked-out squares indicate the covariate was not used in that model formulation.

It is also worth noting that in the results for the composite measures, the likelihood ratio test was significant for three models, but not for the final model C2. The likelihood ratio test indicates that this model was not statistically distinguishable from the basic model that incorporated no US military engagement covariates. This result suggests that the measure Ally, similar to the measure for military finance, was not of overall significance in any model formulation except when added alone to the basic model. From this it might be inferred that most of the significance of the

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military contact composites were due to the measure for US military troops stationed in the country with assistance from the covariate for IMET participation.

The results for the composite measures shown in Table 5-11 are more similar to the parallel results for the consolidated authoritarian states shown in Table 5-7, than to those for consolidated democracies shown in Table 5-3, however the results are not an exact replica but fall somewhere in between the two previously analyzed sets of results as far as overall number of measures having a significant effect on the hazard. This once again points to the necessity of understanding the differential influence exerted by factors on differing regime types.

The results also indicate that while US military engagement activities exerted only a marginal influence on democratization within consolidated democratic regimes, these same activities had a greater influence on middle ground countries that might "fail" to democracy, and even greater influence on consolidated authoritarian regimes. The results in both Table 5-9 and Table 5-11 point to a positive association between US military engagement activities and liberalization/democratization in these middle ground countries where "failure" is defined as becoming a consolidated democracy.

Based on the criteria presented in Chapter Four my overall assessment of the effect of each covariate on the hazard function for the middle ground to democracy regime-failure type is provided in Table 5-12 on the next page. Two of the US military engagement covariates, IMET participation and US troops stationed in the country, were assessed to exert a significantly positive influence on the hazard function. Two of the basic model covariates, status as a former British colony and

trade openness, were assessed as significant in decreasing the hazard, and four of the

basic model covariates were assessed to have no effect. The implications of this

result for democratic and authoritarian trends are discussed in the next chapter.

TABLE 5-12
Middle Ground to Democracy: Covariate Effect on the Hazard Function

Concept Operationalized	Overall Assessment
IMET participant	positive
US military stationed there	positive
Security alliance with US	ambiguous or inconsistent
US military aid recipient	ambiguous or inconsistent
US military sales recipient	ambiguous or inconsistent
Soviet foreign assistance	ambiguous or inconsistent
US economic aid per capita	no effect
New country since 1945	no effect
Former British colony	negative
Trade openness	negative
Level of economic development	ambiguous or inconsistent
Lack of ethnic diversity	ambiguous or inconsistent
Muslim majority	no effect
Christian majority	no effect

Middle Ground to Authoritarian: Cox Modeling Results

The seven models comprising results of the first three phases of Cox

proportional hazard regression modeling for the middle ground to authoritarian

regime-failure type are in Table 5-13 on the next page. As can be seen, all seven

models were well within the 0.10 tolerance for the global proportional hazard

assumption. However, it is important to note that the likelihood ratio test did not

meet the 0.10 significance level cut-off. Thus despite the results shown for the US

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TABLE 5-13

Middle Ground to Authoritarian: Cox Proportional Hazard Models

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	Basic Model	Model 1	Model 2	Model 3	Model 4	Model 5	Full Model
IMETyesno	-	(+) .965	-	-	-	-	(-) .584
Ally	-	-	(shaded)	-	-	-	(+) .364
USmilyesno	-	-	-	(shaded)	-	-	(shaded)
milaidyesno	-	-	-	-	(+) .998	-	(+) .980
milsalesyesno	-	-	-	-	-	(shaded)	(shaded)
soviet_foreign_asst	(shaded)	(shaded)	(shaded)	(shaded)	(shaded)	(shaded)	(shaded)
USeconaid_norm	(-) .516	(-) .520	(-) .717	(-) .620	(-) .525	(-) .395	(-) .791
newc	(-) .756	(-) .769	(+) .478	(+) .442	(-) .761	(+) .642	(+) .209
britcol	(shaded)	(shaded)	(shaded)	(shaded)	(shaded)	(shaded)	(shaded)
open_i	(-) .137	(-) .138	(-) .168	(-) .108	(-) .137	(-) .120	(-) .121
GDP_PPP_per_capita	(-) .093	(-) .094	(-) .092	(-) .045	(-) .094	(-) .055	(-) .046
Ethnic_gp	(shaded)	(shaded)	(+) .213	(shaded)	(shaded)	(shaded)	(shaded)
muslim_majority_yesno	(-) .387	(-) .386	(-) .406	(-) .365	(-) .389	(-) .195	(-) .265
christian_majority_yesno	(-) .976	(-) .979	(-) .530	(-) .929	(-) .976	(-) .978	(-) .640
Global PH test	0.5920	0.6589	0.7022	0.7399	0.6404	0.5435	0.6247
Likelihood ratio test							0.1361

The covariate results are reported as: (sign of coefficient) significance P>|z|. The global test of the proportional hazard assumption and the likelihood ratio test are reported for each model, as Prob>chi2. Detailed results with coefficient values are Appendix U.

military engagement covariates within the full model, we must nevertheless conclude

that the full model which incorporated the US military engagement covariates was not

significantly different from the basic model that did not included the US military

engagement covariates.

The likelihood ratio test results that pointed to a lack of significant difference

between the basic and full models is reinforced by the likelihood ratio tests for the

model formulations that included the US military engagement composite measures.

The results for these tests can be seen below in Table 5-14.

TABLE 5-14
Middle Ground to Authoritarian: Effect of Composite Measures

Composite Covariates	D1	D2	C1	C2
Military contact	0	■	0	■
Mil contact less Ally	■	0	■	0
Ally	■	+	■	++
Military finance	0	0	0	0
Likelihood ratio test	0.2572	0.2912	0.2914	0.2216

Detailed results supporting this table including coefficient and significance
values are in Appendix Y. D1 and D2 refer to the two models with
dichotomous composite covariates, and C1 and C2 refer to the two models
with continuous composite covariates of the US military engagement
measures.
The " +" signifies a positive effect on the hazard; the " –" signifies a negative
effect on hazard. The number of " +" and " –" symbols indicate the
significance level.
++++ or ---- 1 percent
+++ or --- 5 percent level
++ or -- 10 percent level
+ or - 20 percent
0 indicates no statistically significant effect.
Blacked-out squares indicate the covariate was not used in that model
formulation.

None of the models incorporating the composite measures were significantly different from the basic model that did not include them. In addition to the likelihood ratio tests it is also useful to note that none of the composites (military contact, military contact less Ally, or military finance) were significant as covariates.

Overall for the middle ground to authoritarian regime-failure type it must be concluded that the US military engagement covariates exerted very little influence. Based on the assessment criteria, the effect of three US military engagement covariates was assessed as ambiguous. These are the three covariates that were individually significantly as shown in Table 5-13. While these three covariates were also significant as covariates in different model formulations, neither the full model nor any model containing a composite covariate was statistically indistinguishable from the basic model. Although these covariates were significant when added individually and when included in a second model formulation, it cannot be concluded that these covariates meet the criteria previously set out for overall assessment because it cannot be concluded that the full model or any composite covariate model was statistically distinguishable from the basic model. Although we cannot make any assessment of significant influence for any of the US military engagement covariates, we can conclude that the covariates for IMET participation and recipient of US military aid had no effect in any model formulation: individually, in the full model, or as a component of any composite covariate for military contact or military finance. The covariates for IMET participation and recipient of US military aid were thus assessed to exert no effect for middle ground to authoritarian regimes.

Although the effect of the US military engagement covariates must be assessed to be weak to nonexistent for middle ground to authoritarian regimes, five of the nine basic model covariates exerted a statistically significant influence on the hazard. The simplified summary of the Cox proportional hazard regression results for the basic model covariates across the eleven different model formulations is shown below in Table 5-15; detailed results supporting this table are included in Appendix U and Appendix Y.

TABLE 5-15
Middle Ground to Authoritarian: Effect of Basic Model Covariates

Basic Model Covariate	B	1	2	3	4	5	F	D1	D2	C1	C2
soviet_foreign_asst											
USeconaid_norm	0	0	0	0	0	0	0	0	0	0	0
newc	0	0	0	0	0	0	0	0	0	0	0
britcol											
open_i	-	-	-	-	-	-	-	-	-	-	-
GDP_PPP_per_capita	-	-	-	-	-	-	-	-	-	-	-
Ethnic_gp			0								0
muslim_majority_yesno	0	0	0	0	0	0	0	0	0	0	0
christian_majority_yesno	0	0	0	0	0	0	0	0	0	0	0

+ indicates a significant positive coefficient, - indicates a significant negative coefficient, 0 indicates a coefficient that was not significant. Significance level was 0.20. B refers to the basic model, 1-5 refer to the five models where each US military engagement covariate was added separately, F refers to the full model, D1 and D2 refer to the two models with dichotomous composite covariates, and C1 and C2 refer to the two models with continuous composite covariates of the US military engagement measures.

For middle ground regimes with "failure" defined as becoming a consolidated authoritarian state, three covariates increased the hazard, two covariates decreased the hazard, and four had no effect. It is useful to note that none were assessed as ambiguous. Receipt of Soviet foreign assistance and former status as a British colony

exerted a significantly consistent positive effect on the hazard, that is to say these two covariates are associated with earlier failure to consolidated authoritarianism. Increased trade openness and a higher level of economic development exerted a significantly consistent negative effect on the hazard, that is to say these two covariates were associated with increased longevity as a middle ground regime rather than earlier failure to consolidated authoritarianism. Additionally, a larger percentage of the population that is of the largest ethnic group exerted a positive influence across nine of the eleven model formulations. That is to say, regimes with less ethnic diversity had a higher hazard of failing to consolidated authoritarianism. This covariate met the previously set out criteria to be assessed overall as a positive influence because it was significant in the basic model, the full model, and within the majority of the other model formulations.

For the middle ground to authoritarian regime-failure type, I assessed five of the basic model covariates as significant, and the other four had no effect across all models. The assessment is summarized on the next page in Table 5-16 along with my assessment of the US military engagement covariates.

TABLE 5-16

Middle Ground to Authoritarian: Covariate Effect on the Hazard Function

Concept Operationalized	Overall Assessment
IMET participant	no effect
US military stationed there	ambiguous or inconsistent
Security alliance with US	ambiguous or inconsistent
US military aid recipient	no effect
US military sales recipient	ambiguous or inconsistent
Soviet foreign assistance	positive
US economic aid per capita	no effect
New country since 1945	no effect
Former British colony	positive
Trade openness	negative
Level of economic development	negative
Lack of ethnic diversity	positive
Muslim majority	no effect
Christian majority	no effect

Summary

In this chapter I presented the results of my Cox proportional hazard regression analyses individually for each regime-failure type. Five modeling phases were described and the results presented for (1) a basic model not including the US military engagement covariates, (2) five models for the inclusion of each US military engagement covariate separately, (3) a full model showing all five US military engagement covariates added simultaneously, (4) two models incorporating dichotomous composite measures of US military engagement, and (5) two models incorporating continuous composite measures of US military engagement. For each regime-failure type I presented an overall assessment of the influence of each

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covariate on the hazard for each regime-failure type. These results form the foundation for the analyses and discussion in the next chapter, and we now turn to the heart of this study: an integrated assessment of the influence of the factors operationalized by my covariates on democratic and authoritarian trends during the years 1972-2000.

CHAPTER SIX

IMPLICATIONS FOR DEMOCRACY

The most significant finding of my analyses is that US military engagement, as operationalized within my study, is significantly and positively associated with liberalizing trends in all regime types, but the effect is most pronounced in consolidated authoritarian states. In particular, US military-to-military contacts increased the probability that authoritarian states would undergo transition to a more liberal regime type. This result is supported by the multivariate analysis presented in Chapter Five as well as the bivariate analyses presented in Chapter Three. Second, my results also highlight how the dichotomization of regime type into democracy-nondemocracy categories might obscure important differential effects exerted by traditionally studied influences on democratization. Third, my results suggest that the hegemonic socialization mechanisms such as those described by Ikenberry and Kupchan work in the hypothesized manner both for the United States and the Soviet Union.

In this chapter I provide my overall assessment of the effect of each of nine factors as well as US military engagement activities on liberalizing and/or democratizing trends for the years covered by my data, 1972-2000. I begin by defining what I mean by either "liberalization" or "democratization" in terms of the interpretation of my research

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results. Second, I assess the extent to which the covariates that I used to operationalize US military engagement activities were associated with either liberalization or democratization. The substantive effect of each significant military engagement covariate is discussed. Third, I present estimated effects for the basic model covariates that were found to be significant. I then discuss how and to what extent these factors were associated with liberalizing or authoritarian trends. All statistical calculations discussed in this chapter were done using STATA version 8.

Interpreting Liberalization and Democratization

In the assessment and discussion to follow it is useful to keep in mind that the interpretation of what is meant by "liberalization" differs based on how each regime-failure type was defined. I use the term "democratization" to refer specifically to effects related to status as a consolidated democracy, while the term "liberalization" is used to refer to any trend toward less authoritarianism. For example I refer to the "failure" of a middle ground regime to a consolidated democracy as democratization, whereas I refer to the "failure" of a consolidated authoritarian regime to the middle ground as liberalization. This means that all democratizing effects are, by definition, also liberalizing effects, but all liberalizing effects are not necessarily democratizing.

In considering the results it is also important to keep in mind that a positive or negative effect on the survival of a regime-failure type does not necessarily mean increased or decreased liberalization. Each covariate might have exerted one of three possible interpretable effects; it could have (1) increased the chances of survival for a

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regime-failure type, (2) increased the chances of failure to another regime-type, or (3) had no effect. The assignment of a "positive" or "negative" assessment varies in interpretation depending on how each regime-failure type was defined for the survival analysis. In the discussion that follows, "positive" refers to an effect that indicates that the covariate either (1) increased the probability of "failure" to a more liberal regime type, or (2) increased the probability of greater longevity rather than earlier failure to a more authoritarian regime type. "Negative" refers to an effect that indicates that the covariate either (1) increased the probability of failure to a more authoritarian regime type, or (2) increased the probability of greater longevity rather than "failure" to a more liberal regime type. For example, when considering the middle ground to authoritarian regime-failure type a positive effect indicates that the covariate was associated with greater probability of remaining a middle ground regime as opposed to failure to consolidated authoritarianism, whereas a negative effect indicates that the covariate was associated with increased probability of failure to consolidated authoritarianism as opposed to remaining a middle ground regime.

The interpretation of what is meant by a "positive" or "negative" effect in terms of liberalization is summarized for each regime-failure type in Table 6-1 shown on the next page.

TABLE 6-1
Interpretation Positive/Negative Meaning for Each Regime-Failure Type

Consolidated Authoritarian
Positive = greater probability of "failure" to a more liberal regime type
Negative = greater probability of remaining as a consolidated authoritarian regime
Consolidated Democracy
Positive = greater probability of remaining as a consolidated democracy
Negative = greater probability of failure to a more authoritarian regime type
Middle Ground to Democracy
Positive = greater probability of "failure" to consolidated democracy
Negative = greater probability of remaining as a middle ground regime
Middle Ground to Authoritarian
Positive = greater probability of remaining as a middle ground regime
Negative = greater probability of failure to consolidated authoritarianism

A covariate that was assessed in the previous chapter as exerting an effect that was "ambiguous or inconsistent" was considered not interpretable. Further research is required to resolve how these covariates that were assessed as "ambiguous or inconsistent" for a particular regime-failure type might be associated with the nature of survival in that particular setting. The interpretation of "no effect" is straightforward.

Summary of Assessment

With this interpretation kept in mind, a summary of my assessment of the influence exerted by all of the covariates across the four regime-failure types based on the Cox proportional hazard regression modeling results is shown on the next page in Table 6-2. This table incorporates the individual assessments for each of the four regime-

failure types based on the multivariate analyses that were presented in Chapter Five. In the previous chapter the discussion centered on the effect of each covariate on the hazard function for each regime-failure type. In this chapter each covariate and the concept it operationalizes is assessed in terms of its effect on liberalization.

TABLE 6-2
Summary of Covariate Effects on Liberalization

Concept Operationalized	Consolidated Authoritarian	Middle Ground To Democracy	Middle Ground To Authoritarian	Consolidated Democracy
IMET participant	positive	positive	0	?
US military stationed there	?	positive	?	positive
Security alliance with US	positive	?	?	0
US military aid recipient	positive	?	0	?
US military sales recipient	?	?	?	0
Soviet foreign assistance	0	?	negative	negative
US economic aid per capita	?	0	0	?
New country since 1945	negative	0	0	?
Former British colony	not in model	negative	negative	positive
Trade openness	0	negative	positive small	?
Level of economic development	0	?	positive small	positive
Lack of ethnic diversity	0	?	negative	?
Muslim majority	?	0	0	negative
Christian majority	0	0	0	negative

0 indicates no effect.
? indicates ambiguous effect that was considered not interpretable.
"small" indicates that the estimated effect of the covariate was less than 10 percent.

Primary Findings: US Military Engagement Activities

The primary and most important finding of this study is that US military engagement activities were positively and systematically associated with liberalizing trends. The effect is most pronounced in hardcore authoritarian regimes which would seem the most difficult to influence with any sort of engagement type activity. In

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particular, military-to-military contacts, as operationalized by IMET participation and membership in a common security alliance, increased the probability that authoritarian states would transition to a more liberal regime type. For the US military engagement covariates the multivariate results from the Cox proportional hazard regression analyses are reinforced by the bivariate Kaplan-Meier estimation results previously discussed in Chapter Three. The bivariate results can be reviewed by referring back to Table 3-11.

The hazard ratios for the significant US military engagement covariates are shown below in Table 6-3. The effects were estimated using the full model formulation for each

TABLE 6-3
Hazard Ratios for Significant US Military Engagement Covariates

Concept Operationalized	Consolidated Authoritarian	Middle Ground To Democracy	Consolidated Democracy
IMET participant	1.09-2.65	2.28	-
US military stationed there	-	4.16	0.25
Security alliance with US	2.34	-	-
US military aid recipient	2.18	-	-

regime-failure type except as noted in the text for the covariate for IMET participation. Each of these covariates was dichotomous, thus the hazard ratio is the proportion of the hazard when the covariate took on the value of 1 to the hazard when it took on the value of 0. For example, in the consolidated authoritarian column is the hazard ratio of 2.34 for security alliance with the United States. This figure indicates that a consolidated authoritarian regime that was an ally with the United States ($x=1$) was 2.34 times more likely to fail than an authoritarian regime that was not an ally ($x=0$). The hazard ratio of

0.25 in the consolidated democracy column indicates that a consolidated democracy that had US troops stationed in it (x=1) was 0.25 times more likely to fail as one that did not have US troops in it (x=0). This is the same as saying that a consolidated democracy that did *not* have US troops stationed in it (x=0) was 4.00 times more likely to fail than one that had US troops stationed in it (x=1). The estimated effects will be further discussed below for each covariate.

In the Cox proportional hazard regression modeling all US military engagement covariates assessed as significant were positively associated with liberalizing trends and none were associated with increased authoritarianism. Strikingly, the liberalizing influence of these covariates is most pronounced for consolidated authoritarian regimes. Three covariates: IMET participation, security alliance with the United States, and recipient of US military aid, were found to be associated with greater probability of failure for consolidated authoritarian regimes, a liberalizing trend. That is, consolidated authoritarian regimes were more likely to transition to either middle ground regimes or consolidated democracies when militarily engaged by the US military than were other consolidated authoritarian regimes that were not militarily engaged.

The hazard ratios across models indicate that the effect was substantial. For the full model the covariates indicating security alliance with the United States and recipient of US military aid more than doubled the hazard for consolidated authoritarian regimes. As will be recalled the covariate for IMET participation was not found to be significant in the full model, and, as such, it only increased the hazard by nine percent in this model. However, in the consolidated authoritarian model formulations in which the covariate for

IMET participation was found to be significant, its hazard ratio was roughly comparable to the hazard ratios for the other two covariates; that is to say that it approximately doubled the hazard.[1]

The Cox modeling results also show that US military engagement activities were associated with a democratizing trend for middle ground countries where "failure" was defined as becoming a consolidated democracy. For this regime-failure type two covariates: IMET participation and US military troops stationed in the country were associated with a greater probability that a middle ground regime would transition to a consolidated democracy than other middle ground regimes that were not militarily engaged. The hazard ratios also indicated that the effect of these two covariates was substantial with IMET participation more than doubling the hazard, while US military troops stationed in the country increased the hazard by four times.[2]

For the middle ground to authoritarian regime-failure type none of the US military engagement covariates exerted any sort of significant influence. Thus, for the middle ground of regimes US military engagement activities were associated with democratizing trends but were not associated with hindering or helping middle ground regimes that transition to consolidated authoritarian regimes. For the middle ground regimes US

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[1] The hazard ratio for the full model for IMETyesno was 1.09; however, IMETyesno was not significant in the full model. IMETyesno was significant when added individually to the basic model, in this model the hazard ratio for IMETyesno was 2.65. In the three models in which IMETyesno formed a component of the composite measure for military contact that was significant, the hazard ratios for the composite measure were: 1.29, 2.46, and 2.38.

[2] The full model is reported for consistency, although the covariate IMETyesno was not significant in this model barely missing the cut-off at 0.204. However its effect was still substantial. The hazard ratios for the two covariates for the middle ground to democracy regimes in the full model were: IMETyesno, 2.28; USmilyesno, 4.16.

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military engagement activities were at best associated with democratization, and at worst had no effect on increasing the probability of failure to consolidated authoritarianism.

For consolidated democracies only the US military engagement covariate indicating US military troops stationed in the country was significant. It exerted a positive influence, meaning that it increased the probability that a consolidated democracy would remain a consolidated democracy rather than fail to increased authoritarianism. The hazard ratio is substantial: consolidated democracies that did *not* have US troops stationed in them were four times as likely to fail as consolidated democracies that did have US troops stationed in them. Two of the US military engagement covariates, security alliance with the United States and recipient of US military sales, were both assessed to have no effect on the survival of consolidated democratic regimes. This is in sharp contrast to the assessment of the US military engagement covariates for the consolidated authoritarian regimes where none of the US military engagement covariates were assessed as exerting no effect.

The differential influence of the US military engagement covariates across these two very different types of regimes is striking. US military engagement activities exerted only a marginal influence on democratization within consolidated democratic regimes, but these same activities have a much greater influence on consolidated authoritarian regimes. These are the states thought most difficult to influence and the least likely to be affected because of the more closed nature of their societies. Additionally, it is difficult to argue that the observed democratizing effects are endogenous when the regimes most

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affected were not consolidated democracies, but consolidated authoritarian regimes and the effects were weakest for the consolidated democratic regimes.

It is important to note that participation in professional military educational opportunities within the United States (IMET participant) was associated with a greater probability that a consolidated authoritarian regime would transition to a more liberal regime type and a greater probability that a middle ground regime would transition to a consolidated democracy. Because these professional military education programs are the US military engagement activity most closely associated with personal contact between personnel of the US military and those of other states, my result lends credence to the notion of normative persuasion as a mechanism of elite political socialization. This is reinforced by the finding that membership in a common security alliance with the United States was also associated with a greater probability of liberalization in consolidated authoritarian regimes. Both IMET participation and membership in a common security alliance were the two operationalizations of military engagement activities thought to be closest to the idea of what is meant by socialization through person-to-person contacts. The results show that both were significantly and systematically associated with political identity change within hardcore authoritarian states over the long-term. Military-to-military personal contacts, as measured by IMET participation, were also associated with democratization trends in middle ground regimes. This reinforces the relevance of the finding for consolidated authoritarian regimes.

The finding that military-to-military personal contacts between members of consolidated democracies established through IMET participation or common alliance

membership have only a weak to marginal effect on sustaining democracy within consolidated democracies is logical and consistent with my argument. We would expect that democratic ideas, beliefs, and values should already be inculcated within consolidated democracies, thus normative persuasion of political elites through US military-to-military contacts might be expected to have little to no influence on the political identity of consolidated democracies.

Both the bivariate and the multivariate results presented in this study indicate that US military engagement strategies are associated with increased liberalization, and even democratization, in hardcore authoritarian states as well as the middle ground of states. It is worth reiterating that the US military engagement covariates were not found to be associated with authoritarian trends in any of the regime types. Thus, it might be suggested that at best US military engagement is associated with a change in political identity toward democracy; at worse they are not associated with a change in political identity toward increased authoritarianism. This finding is important because the consolidated authoritarian regimes are the regimes the United States would, arguably, like to influence the most, and my results indicate that these are the regime types on which US military engagement activities seem most likely to have an impact.

The systematic association between US military engagement activities and liberalizing and/or democratizing trends suggest the long-term efficacy of engaging nondemocratic states. My finding supports the viability of an "engagement" strategy based on elite political socialization of the nature suggested by Ikenberry and Kupchan's hegemonic socialization mechanism of normative persuasion through the social and

professional interaction of political elites. Measures within this study that operationalized this concept were found to be associated with a change toward greater liberalization in the political identity of states, particularly in authoritarian states. More will be said about the theoretical and policy implications of this finding in Chapter Seven in which the results discussed in this chapter are linked back with the theory discussed in Chapter One.

Other Significant Findings

We now turn to consider the remaining democratization factors and their systematic influence on liberalizing and authoritarian trends. In this section I first present estimated effects for all the basic model covariates identified as significant in the Cox proportional hazard regression analyses, and then assess the effect of the covariates in terms of the concepts that they operationalized. These results are presented in the order that I thought most interesting in light of previous research findings and in relation to ideas of political elite socialization and regime identity change.

Estimated Effects

Estimated effects, in the form of hazard ratios, for the significant basic model covariates are shown on the next page in Table 6-4. The effects were estimated using the basic model formulation for each regime-failure type. The table has two columns for hazard ratios: the first shows the hazard ratio for the dichotomous covariates, the second shows the hazard ratio in terms of a one standard deviation change for continuous

covariates. The interpretation of the dichotomous covariates is straightforward as already

discussed. The effect of the continuous covariates was estimated based on a one standard

deviation increase in the value of the covariate. For example, in the middle ground to

democracy category the hazard ratio of −41.87 percent for trade openness means that for

a one standard deviation increase in the value for trade openness the hazard of failure is

decreased by 41.87 percent.

<div align="center">

TABLE 6-4
Hazard Ratios for Significant Basic Model Covariates

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	Hazard Ratio $x=1 / x=0$	Change in the hazard of failure for a one standard deviation increase in x
Consolidated Authoritarian		
New country status	0.48	-
Middle Ground to Democracy		
Former British colony (ln)	-	-100.00%
Trade openness	-	-41.87%
Middle Ground to Authoritarian		
Soviet foreign assistance	1.85	-
Former British colony	2.33	-
Trade openness	-	-0.26%
Level of economic development	-	-0.01%
Percent of largest ethnic group	-	34.12%
Consolidated Democracy		
Soviet foreign assistance	4.86	-
Former British colony	0.26	-
Level of economic development	-	-99.36%
Muslim majority	8.12	-
Christian majority	7.37	-

As can be seen the estimated effects are substantial for all covariates except for

trade openness and level of economic development in the middle ground to authoritarian

analyses where the estimated effect was less than one percent. Thus, while these two

covariates were found significant in the previous analyses they did not have a large

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substantial effect. This very small hazard ratio is an important consideration when further assessing the relevance of trade openness and level of economic development for the middle ground to authoritarian regime type. As discussed further in the results presented below, the small hazard ratios did not affect the overall assessment reached. All other hazard ratios unambiguously reinforce the significance of the findings.

Differential Effects Across Regime Types

In my study one of the more interesting findings when considering the basic model covariates is their differential effect on the different regime types. The further a regime type diverges from being a consolidated democracy the less effect (either positive or negative) the basic model covariates had. This is most evident in looking at the number of covariates that had no effect. For consolidated democracies, there were no covariates that were assessed as exerting no effect, for the middle ground of regimes there were four that had no effect, and for consolidated authoritarian regimes there were five that had no effect.

These results are so striking because it suggests that factors identified by previous studies as affecting democratization across regime types might not be as applicable to the liberalization of hardcore authoritarian states. A conclusion that might be drawn is that past research that has focused on effects of these factors on democratic governments have indeed identified many significant factors associated with democracies; however, these factors may be less relevant when considering processes of liberalization in general or across regime types.

It might also indicate a weakness in studies that use the dichotomization of democracy-nondemocracy as their measure of regime type. Such a dichotomization necessarily includes in one or both of the dichotomous categories regimes that inhabit the middle ground not truly being either authoritarian or democratic in the consolidated sense. Assessment of this phenomenon is beyond the focus of this research project, yet it is an important finding that should be pursued and reconciled in future research.

Economic Factors and the Middle Ground of Regimes

Level of Economic Development

My findings are consistent with previous research studies that have linked an increased level of economic development with democratizing trends. My results show that a higher level of economic development increases the probability that a consolidated democracy will survive, and that level of economic development has no effect on the longevity of consolidated authoritarian regimes. Both of these findings are consistent with Przeworski et al.'s results. This multivariate finding is supported by the bivariate results discussed in Chapter Three.

For middle ground regimes the best that can be said from my results is that level of economic development helps middle ground regimes consolidate rather than fail to authoritarianism. For middle ground to democracy regime-failure types, my results are inconsistent, shedding little light on the proposition that level of economic development may have a beneficial effect on the transition to democracy; thus the worst is that middle ground regimes remain in the middle ground. For middle ground to authoritarian regime-

failure types, the very small yet significant estimated effect of economic level of development also does not preclude this conclusion. While the effect of aiding consolidation of a middle ground regime was very small, there definitely was no finding of the opposing effect of aiding transition to authoritarianism.

These findings indicate that the democratizing, or even liberalizing, influence of level of economic development extends only to those regime types that have already achieved a certain level of democratic development. My results for the middle ground suggest that an increased level of economic development may aid transition to consolidated democracy; however, these results were not consistent enough to definitively conclude this. More research is required to understand the nature of the effect of the level of economic development on middle ground regimes. In future studies, breaking out middle ground regimes from their consolidated counterparts might provide more detailed assessment of the democratic consolidating versus democratic transitioning influence exerted by levels of economic well-being. Economic well-being might well be associated with democratizing trends in middle ground regimes, rather than just the durability of democracy in consolidated democratic regimes.

Trade Openness

US government policies linking the intertwined goals of promoting free markets and democratic ideals had suggested that trade openness would be associated with liberalizing trends. However my results, similar to the findings of Lipset, Seong, and Torres, showed that the effects of increased trade openness are not consistent. I found the

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effect on consolidated democratic regimes to be inconsistent and thus not interpretable. Increased trade openness had no effect on consolidated authoritarian regimes neither promoting their survival nor hastening their demise. For middle ground regimes, however, increased trade openness had the unusual effect of keeping them in the middle ground rather than increasing the probability that they would transition to either political extreme. The very small estimated effect of trade openness on preventing middle ground regimes from transitioning to authoritarianism does not obviate this finding. While the effect may have been very small, there was certainly no finding of the opposing effect of aiding transition to authoritarianism. No matter the size of the effect, consolidation was the result. For middle ground regimes, greater trade openness was associated with a greater probability of remaining a middle ground regime rather than transitioning to consolidated democracy and, concomitantly, a greater probability of remaining a middle ground regime rather than failing to authoritarianism. Once again this is an important finding in that we can see that trade openness did influence middle ground regimes in a way quite different than for regimes in either of the two consolidated extremes.

Finally, my finding that both economic level of development and trade openness had no effect on the survival probability of hardcore authoritarian regimes coupled with the above finding for middle ground regimes has an important policy implication. Consolidated authoritarian regimes appear not to be affected by a US "democratization" strategy based on economic development incentives or disincentives; however, while these states may be impervious to such a strategy middle ground regimes are not. At best economic factors increased the probability that middle ground regimes would remain in

the middle ground rather than transition to greater authoritarianism, at worst it increased the probability that they survived as middle ground regimes rather than transitioning to consolidated democracy.

It is useful to note that a third economic factor, US economic aid per capita, that was used to control for US economic assistance apart from US military assistance, was found to have no effect on middle ground regimes and it had ambiguous effects on both consolidated democracies and consolidated authoritarian regimes.

Soviet Hegemonic Influence

Soviet foreign assistance is an influence on liberalization that has not been addressed fully in large quantitative studies of democratization. In such studies a Cold War dummy variable has been used to control for the effects of the era of the Cold War rather than differentiating effects experienced by different countries based on the closeness of their ties to the Soviet Union. One might reasonably expect that different countries had different experiences based on the closeness of their interaction with the Soviet Union. Theories of hegemonic socialization of political elite leaders would seem as relevant for the Soviet Union as they are for the United States.

My measure of Soviet foreign assistance is a first attempt to capture the effect of Soviet influence in a more descriptive sense than merely using a dummy variable to control for the Cold War era. However, as noted in Chapter Two, my measure is still very rough and further quantitative work needs to be done to provide a more sophisticated measure of the differing levels of political interaction and dependency that

countries experienced vis-à-vis the Soviet Union. With that caveat in mind my results indicate that Soviet foreign assistance had the same effect from the Soviet perspective that US military engagement had for the United States. That is to say that my findings suggest that Soviet engagement activities worked to promote Soviet objectives much like US military engagement worked to promote US objectives. The findings show that Soviet foreign assistance was associated with an increased probability that a consolidated democracy would fail as well as an increased probability that a middle ground regime would transition to consolidated authoritarianism. This is the mirror effect to that discussed above for US military engagement activities. This multivariate result is supported by the bivariate analyses presented in Chapter Three.

This suggests that engagement, as operationalized by this rough measure, was also an effective strategy for the Soviet Union in promoting authoritarianism in the form of communist/socialist states. Further research into this phenomenon is required with more sophisticated measures of differential Soviet influence and its effect on the survival of different regime types. It would be interesting to explore further this phenomenon using the same operationalization of military engagement covariates that I used for the United States but for the Soviet Union.

The results also suggest that the removal of the Soviet counter influence to liberalization did by itself exert a significant influence on liberalization apart from any proactive US democratization policies. That is to say that the removal of this factor would have had the long-term effect of prolonging the survival of consolidated democratic regimes and decreasing the probability that middle ground regimes would fail

to greater authoritarianism. In this sense, the results are also consistent with the common view that the fall of the Soviet Union was itself a significant event opening the way for the spread of democracy around the world.

Hegemonic socialization might be hypothesized to work in favor of the hegemon no matter the regime type of the hegemon. This is an interesting addendum to Kantian notions of perpetual peace facilitated by a democratic hegemon. The initial results in this study are compatible with theoretical expectations concerning hegemonic socialization as well as Cold War rhetoric and deserve to be explored further, particularly at the regional level of state interaction.

Neither Christianity Nor Islam

The results of previous studies of the effect of various religious affiliations were rather mixed. It is difficult to say with certainty whether a particular religion is or is not systematically associated with liberalizing trends over the long-term. My results do not resolve this inconsistency. Buddhist, Hindu, and Orthodox majority populations were found to have only weak effects in the bivariate analyses and were not included in the Cox models. As might be expected, the bivariate effects for both Catholic and Protestant majority populations were similar to the effect of a Christian majority population, and only Christian majority population was included as the conceptual parallel to an Islamic majority population in the Cox models. When controlling for other factors in the multivariate analysis, the effects of either religious affiliation greatly diminished.

My primary finding concerning religious affiliation is that counter to previous studies neither a majority Christian population nor a majority Muslim population was associated with either a liberalizing or an authoritarian trend, except in the case of consolidated democracies where *both* a majority Christian population and a majority Muslim population were associated with an increased probability of failure, an authoritarian trend. This result is counter to previous studies that suggested that Christianity was associated with liberalization; however, it is consistent with previous findings that found that a predominantly Muslim population was associated with the difficulty of maintaining a democratic state.

In my findings a Christian majority population was found to have no effect on the survival probability of either middle ground regimes or consolidated authoritarian regimes. An Islamic majority population was found to have no effect on the survival probability of middle ground regimes, and an effect that was not interpretable on consolidated authoritarian regimes. The widespread finding of no effect is interesting and should be fruitful ground for further research. At most, my finding does not support assertions that Christianity is associated with the survival of democratic regimes or that Islam associated with the survival of authoritarian regimes. This is consistent with Przeworski et al. who found neither Protestantism nor Islam to be associated with either the emergence or the durability of democracy, although they did note the positive association of Catholicism with longevity of democratic governments.

Ethnic Diversity

My results for the effect of ethnic diversity are equally uninformative in resolving previously inconsistent research findings. I found that the larger the percentage of the total population that is of the largest ethnic group the greater the probability that a middle ground regime would fail to consolidated authoritarianism. The same measure had no effect on consolidated authoritarian regimes with the results for the other two regime-failure types being not interpretable. At the most my results suggest that ethnic homogeneity is associated with authoritarian trends for middle ground regimes; however, once consolidated authoritarianism is achieved ethnic homogeneity or diversity has no significant effect on the longevity of the regime. The results of my study are consistent with previous research that has generally found an inconsistent association between ethnic diversity and democracy. This result harkens back to Bollen and Jackman who argued that researchers needed to understand better the cross-cutting cleavages of all relevant societal groups, not just those based on ethnicity.

Former British Colonies

The covariate for status as a former British colony was of most interest during the construction of the Cox proportional hazard models. It exhibited a good deal of time dependency, so much so that it was removed from one of the models (consolidated authoritarian) and logarithmically transformed in another (middle ground to democracy). An examination of the scaled Schoenfeld residuals in all cases indicated that the effect of the variable was pronounced in the first few years of my study with little time

dependency for the later years. This is consistent with previous findings that noted time dependency, namely that status as a former British colony was a significant influence through the early 1970s but not in later years.

That being said, status as a former British colony was associated with increased longevity for consolidated democratic regimes. This finding is consistent with Przeworski et al. who found that democracy was more likely to survive in countries that had been British colonies. I found the measure for status as a former British colony had a negative effect on middle ground regimes increasing the probability that they would fail to consolidated authoritarianism while also increasing the probability that they would remain in the middle ground rather than transitioning to consolidated democracies, an overall authoritarian trend. This finding is consistent with Paxton who found that status as a former British colony had a negative effect on democracy in her 1991 panel. Once again it would appear that the delineation of a middle ground regime type provided new information. For consolidated democracies, status as a former British colony was associated with the durability of democracy; however, for the middle ground of regimes it was associated with authoritarian trends.

New Countries

As mentioned previously, my measure for new country status indicated several different types of new countries. New countries were defined as any country that gained independence or was formed in or after 1945. This included former colonies that gained independence, countries that were formed from the republics of the former Soviet Union,

countries resulting from the break up of the former Yugoslavia, as well as the formation

of the Czech and Slovak republics following the dissolution of Czechoslovakia in 1993.

It is hypothesized that new country status might be associated with greater

difficulty in governing, particularly for countries that are democracies. My results are

ambiguous with respect to this proposition. I found that new country status had no effect

for middle ground regimes and had results that were not interpretable for consolidated

democracies; however, new country status did increase the probability of survival for

consolidated authoritarian regimes. This suggests that new countries have greater

difficulty liberalizing once they become consolidated authoritarian states because they

have less experience in self-government, but this relationship is unclear from the results

of this study.

Summary

In this chapter I assessed how the various factors included in my study were

associated with either liberalizing or authoritarian trends during the years 1972-2000. US

military engagement, as operationalized within my study, was positively associated with

liberalizing trends particularly for consolidated authoritarian states, and also for middle

ground regimes. The two US military engagement measures that best operationalized the

normative persuasive aspects of elite political socialization, IMET participant and

membership in a common security alliance, were systematically associated with these

trends. My findings also suggested that engagement was an effective strategy for the

Soviet Union in promoting Soviet objectives much like US military engagement worked

to promote US objectives, however further research is required to confirm or disconfirm this proposition.

In my discussion I also highlighted how the dichotomization of regime type into democracy-nondemocracy categories obscures significant differential effects exerted by major democratization factors such as economic well-being. In considering democratization factors identified in past research studies, we saw that middle ground regimes experienced different effects than consolidated authoritarian regimes, and they in turn experienced different effects than their consolidated democratic counterparts. My results are largely consistent with past research although the differential effects found between the three regime types were very relevant and were highlighted. We now proceed to the final chapter where the implications for democracy presented in this chapter are linked with the theoretical ideas discussed in Chapter One.

CHAPTER SEVEN

POLITICAL SOCIALIZATION THROUGH MILITARY ENGAGEMENT

The results of my research have important theoretical, methodological, and policy implications. First, my study shows that constructivist-type mechanisms have important effects not just on the theoretical periphery of political science where such mechanisms are usually relegated, but in the core area of national security. Human interaction on a person-to-person level can change ideas, attitudes, and perceptions in significant material ways such as my study found: to influence the political identity of states in a manner that augments the long-term national security of the United States. This significant finding is reinforced by my results that indicate that socialization mechanisms worked in much the same manner for the Soviet Union as they did for the United States: changing ideas, leading to self-redefinition, and hence altering the political identity of the type of states that were most likely to threaten national security.

Second, US military engagement activities, as operationalized in my study, were found to be significant in aiding liberal transitions. The results of my study indicate that US military engagement activities, particularly those that involve longer term person-to-person contacts, are an effective strategy to aid in the liberalization of regimes. From a theoretical as well as policy point-of-view this is an important finding. While past research studies have identified factors that aid in democratic consolidation, little

progress has been made in identifying factors that aid democratic transition. This finding

indicates that the examination of other ideational mechanisms, such as foreign exchange

programs between universities, might serve as a potentially productive avenue for future

research into democratic transition processes.

Third, I demonstrated that important effects might be obscured when the

categorization of regime type is so general or broad that a large number of observations

have widely overlapping similarities. My results show that middle ground regimes

experience significantly different effects from consolidated democracies or consolidated

authoritarian regimes. From a policy standpoint it is imperative to recognize that

particular factors may have different impacts depending on the level of democracy

achieved. For example, my results indicate that US democratization strategies based on

economic development activities had little effect on consolidated authoritarian states but

the same strategies prevented middle ground regimes from transitioning to consolidated

authoritarianism.

In this chapter I detail the theoretically and methodologically contribution my

research project makes to political science. I discuss the policy relevance of my findings

and its implication for strategies that might be pursued to further the national security

interests of the United States. I begin with a summary of my research results and then

discuss the theoretical, methodological, and policy implications. I conclude with

personal observations on the research project.

In the previous chapter the results of my analyses were presented in terms of trends in liberalization or authoritarianism. However, another important perspective is the effect that each of the factors in my study had on the processes of democratization, that is to say on helping different types of regimes to consolidate or transition between regime types.[1] Shown below in Table 7-1 are the consolidation or transition effects indicated by my results for each of the fourteen factors that were assessed.

TABLE 7-1
Transition and Consolidation Effects

Concept Operationalized	Consolidated Authoritarian	Middle Ground	Consolidated Democracy
IMET participant	Transition -	Transition +	
US military stationed there		Transition +	Consolidate
Security alliance with US	Transition -		
US military aid recipient	Transition -		
US military sales recipient			
Soviet foreign assistance		Transition -	Transition -
US economic aid per capita			
New country since 1945	Consolidate		
Former British colony		Consolidate/Transition -	Consolidate
Trade openness		Consolidate	
Level of economic development		Consolidate	Consolidate
Ethnic homogeneity		Transition -	
Muslim majority			Transition -
Christian majority			Transition -

"Consolidate" means increases the longevity of the regime type
"Transition -" means aids in authoritarian transition
"Transition +" means aids in liberal/democratic transition

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[1] I am indebted to my colleague Giacomo Chiozza for the suggestion to discuss democratization processes, not just trends; as well as for comments on my ideas that helped me to formulate the conclusions presented here.

Hegemonic Socialization Through US Military Engagement

When considering all of the factors shown in Table 7-1, the effect of US military engagement activities on the processes of democratization is astounding. US military engagement activities were the *only* factors that aided regimes in transitioning to a more liberal regime type. This included transition to consolidated democracy as well as transition to the middle ground from consolidated authoritarianism. Another striking aspect was that *none* of the traditionally studied democratization factors had a consistent effect across more than one regime type; however, three of the factors associated with ideas of hegemonic socialization, IMET participation, the presence of US military troops, and Soviet foreign assistance, had consistent effects across two regime types. IMET participation made liberal transitions more likely for consolidated authoritarian regimes and democratic transitions more likely for middle ground regimes. Soviet foreign assistance had the mirror effect, aiding authoritarian transitions for both consolidated democracies and middle ground regimes. The presence of US military troops made democratic transitions more likely for middle ground regimes and helped consolidation once democratic status was achieved.

The consistency of these factors across regime type underscores the strength of the finding that US military engagement activities aided liberalization over the long-term and lends credence to identity-based socialization arguments of constructivist theory. Wendt described the constructivist perspective of the nature of the international system as: "...'social' in the sense that it is through ideas that states ultimately relate to one

another, and 'constructionist' in the sense that these ideas help define who and what states are."[2]

Hegemonic socialization through human interaction can significantly influence the political identity of states in the manner argued by constructivists. As evidenced by the results of my study, the hegemonic socialization mechanism of normative persuasion functioned in the identity-altering manner suggested by Ikenberry and Kupchan. That is, it facilitated the exchange of ideas in the manner desired by the hegemonic power reconstituting the nature of the international system through gradual change in the identity of the states within it. There are several significant findings within my study that provide substantial support to this theoretical assertion.

In the years under review in my study, 1972-2000, the effect of US military engagement activities was most pronounced for consolidated authoritarian regimes. Of the various measures of US military engagement activities, IMET participation and membership in a common security alliance were the two measures of military engagement activities thought to be closest to the idea of what is meant by political elite socialization through person-to-person contacts that might lead to political identity change of states. Over the course of the 28 years covered in the study, both IMET participation and membership in a common security alliance were significantly and systematically associated with liberal transitions in hardcore authoritarian states. That is to say that the hardcore authoritarian states that were engaged by the US military in the

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[2] Alexander Wendt, *Social Theory of International Politics* (Cambridge: Cambridge University Press, 1999), 372.

manner prescribed by US national military doctrine were at least twice as likely to undergo liberal transitions as their unengaged counterparts.

For the consolidated authoritarian states, it is also important to note that the presence of US military troops had no definitive effect. This finding reinforces the relevance of normative persuasion as a viable socialization mechanism apart from the more coercive socializing effects that might be associated with the physical presence of US troops. The two measures of military engagement closest to the ideational mechanism of identity change through political elite socialization were significant apart from the measure that more closely entails coercive aspects. This lends credence to my argument that normative persuasion is a significant factor in the liberalization, and even democratization, of consolidated authoritarian states in the long-term and apart from coercion.

My argument for the importance of ideational mechanisms such as hegemonic socialization of political elites is also reinforced by my results for the effect of Soviet foreign assistance on democratizing processes. As mentioned above, Soviet foreign assistance also had consistent effects across two regime types, thus reinforcing the robustness of its effect. The most striking aspect of the effect of Soviet foreign assistance is that it mirrored the effect of US military engagement activities. Soviet foreign assistance aided regimes transitioning from consolidated democracy to the middle ground, and aided middle ground regimes transitioning to authoritarianism. From the Soviet perspective it had the same beneficial effect on altering the political identity of the engaged states as US military engagement had for the United States.

It is important to emphasize that hegemonic socialization was influential in shaping the political identity of the engaged states in the manner desired by the hegemon. For the United States it aided democratization; for the Soviet Union it aided authoritarianism. This effect is very important because the socialization mechanism is seen to work in the hypothesized manner for two very different types of hegemons. Although this is a preliminary finding for Soviet hegemonic socialization, it is noteworthy that mechanisms of hegemonic socialization appeared to work much in the prescribed manner for both an authoritarian as well as a democratic hegemon. This provides significant reinforcement to my argument concerning the identity altering effects of US hegemonic socialization through US military engagement because it indicates that the hegemon exercised control over the nature of the effect. This strengthens my argument that the democratizing effect of US engagement activities was not an unintended consequence or a random effect.

It is also difficult to argue that the demonstrated effect of US military engagement activities is endogenous. By endogenous I mean that the effect was due to the coincidence that the US military engaged the states most likely to democratize or consolidate their democracies. If the demonstrated effect were endogenous, then it would be logical to expect that the greater the level of democracy achieved the greater the effect of the US military engagement covariates. However this was not the case. The regime type least likely to be affected, the consolidated authoritarian regimes, were the most affected.

Additionally, if the effect were endogenous, it would also be logical to expect that all five military engagement covariates would be positively associated with the durability

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of democracy for consolidated democracies. That is to say that consolidated democracies that housed US troops, were a security ally of the United States, received US military assistance, purchased US military equipment, and participated in US professional military education programs would be more likely to endure than consolidated democracies that did not. However this was not the finding except in the case of one covariate, the presence of US military troops. Consolidated democracies engaged by the United States were no more likely to endure than those that were not engaged. The regime type most affected by US military engagement activities were those most resistant to liberalization: consolidated authoritarian regimes.

The mirror effect for Soviet foreign assistance also lends support to my argument. If the effect of engagement were endogenous, then it would be expected that Soviet foreign assistance would help consolidated authoritarian states resist liberalization. Authoritarian states would be most easily influenced by Soviet engagement. This was not indicated by my results. This dual finding is very significant in that it points to the efficacy of hegemonic socialization through mechanisms *other than* coercion and imposition. The regimes most likely to be influenced were not. Rather, the regimes most influenced were those that might be thought to be most resistant to the influence of the hegemonic socializer. In each case, socialization occurred in the manner desired by the hegemon in the most difficult cases for each hegemon. The mirror effect for Soviet engagement supports my theoretical argument that political elite socialization through engagement activities of the hegemonic power might over the long-term lead to political identity change in targeted states.

Another consideration is whether normative persuasion is the mechanism at work in the hegemonic socialization process. If normative persuasion was the mechanism at work, then we would expect that democratic ideas, beliefs, and values would already be inculcated within consolidated democracies, thus normative persuasion of political elites through US military-to-military contacts might be expected to have little to no influence on the political identity of consolidated democracies. The effect would already have been achieved; there would be no further need to achieve it. The finding that military-to-military personal contacts between members of consolidated democracies established through IMET participation or common alliance membership have no effect on sustaining democracy within consolidated democracies is logical and consistent with my argument, providing support to normative persuasion as the mechanism at work.

My results demonstrate that identity-based constructivist mechanisms have observable effects on the long-term political identity of states and hence the nature of the international system. The consistency of effect across two regime types and the mirror effect for the Soviet Union lends support to my argument. My results indicated that the normative persuasion mechanism proposed by Ikenberry and Kupchan operated in the prescribed manner, altering the substantive beliefs of the political elite as evidenced by the increased likelihood of political identity change for the engaged states as opposed to those states not engaged.

From a theoretical perspective, my finding is consistent with the constructivist identity-based theory of socialization. As Wendt stated, "The constructivist model assumes that agents themselves are in process when they interact. Their properties rather

than just behaviors are at stake."[3] From a policy perspective, my findings suggest that it would be a wise policy for the United States to interact with other states in such a manner that identities are constructed and re-constructed in a manner beneficial to US national security. While US military engagement activities may have diverse short-term effects, they were found to promote liberalization over the long-term. Pursuing such beneficial interactions is in the long-term national security interest of the United States. And as my results also indicate, if the United States does not engage other states, competitors may fill the vacuum for their own benefit and to the detriment of US national security.

Constructivist focus on constitutive processes, specifically the argument that identities are always in the process of being formed and reformed, points out the need for a component of US foreign and security strategies, of which US military engagement activities are a part, that allow the United States to shape states' identities in a manner conducive to US national security interests. My study provides evidence that US military engagement activities are one viable method to do this. Additionally, it is worth repeating that US military engagement activities were *not* found to be associated with authoritarian trends *in any* of the regime types. That is, at best US military engagement helped democratization, at worst it did not hurt democratization. From a policy perspective US military engagement activities are a win-win strategy in the long-term. As Nye and Owens argued, programs such as IMET are an influential and cost effective way to advance US national security.

The United States through engagement type activities has the capability to shape the identity of states that constitute the nature of the international system. In turn, a more

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[3] Alexander Wendt, *Social Theory of International Politics*, 366.

democratic international system shapes how the United States interacts with fellow states, to persuade, induce, coerce, or impose. As Wendt pointed-out, "Agents themselves are on-going effects of interaction, both caused and constituted by it."[4] Of the various strategies that the United States could pursue, it is undoubtedly in the interest of the United States to be able to persuade or induce fellow states as opposed to using coercive strategies that may be very costly in terms of material resources, human lives, and the stature and credibility of the United States as the leader of an emerging democratic world order. US military engagement activities are a demonstrated useful and less costly component of US national security strategies. And, if one finds the democratic peace argument credible, US military engagement activities promote a more peaceful international system.

A Few Words on the Traditionally Studied Factors

In considering my results, there are two very striking aspects of the consolidation and transition effects of the traditionally studied democratization factors. First, there was *not a single factor* that aided regimes in liberal transitions. At most two factors, former status as a British colony and level of economic development, helped democracies endure. This is consistent with previous research findings as discussed in Chapter Six. From a pro-active policy point-of-view, only one of these factors is relevant, level of economic development. In considering democratization strategies one cannot change the past history of a state, but only work to affect level of economic development. With this reality comes an important policy caveat: namely that a democratization strategy to

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[4] Alexander Wendt, *Social Theory of International Politics*, 316.

increase level of economic development, according to my results, would help democracy endure, but would also help middle ground regimes endure rather than aid in their transition to democracy. Thus, it would seem from a pro-active democratization policy point-of-view the traditionally studied factors provide no leverage in policy efforts to aid democratic transition.

Similar to previous research findings my study demonstrated that traditionally studied factors have little to say about liberal transitions. However, unlike previous research, my study highlights a new set of factors that might be pursued, that do seem to have a significant effect on liberal transitions. My study suggests that ideational mechanisms deserve further attention in the study of transition processes.

The second striking aspect when considering my results for the traditionally studied factors is that there was *not a single factor* that had the same effect for a middle ground regime as it did for a consolidated regime. From a theoretical as well as a methodological perspective this points to the need to delineate further regime types beyond democracy-nondemocracy. Middle ground regimes do experience different effects from their consolidated counterparts. Including them within either the "democracy" or "nondemocracy" categorizations might well obscure important effects or lead to less than optimal policy recommendations.

Future research might productively explore cascading effects for relevant factors; that is to say effects similar to what I found for US military presence where a factor first aids transition then aids in consolidating the new regime type. The closest to a cascading effect in the traditionally studied factors is the effect of level of economic development, but the effect was less cascading than solidifying for middle ground and consolidated

democracies. That is, the effect of an increased level of economic development aided in consolidation of the current regime type rather than aiding transition in a cascading fashion.

Finally, my measure for Soviet hegemonic influence was preliminary, intended as a first step in better understanding the systematic influence exerted by the Soviet Union on democratization both during the Cold War and in the wake of the collapse of the USSR. It seems trite to say that the Soviet Union was very influential, but there has, to date, been little systematic research conducted to understand exactly what that influence was or how it countered or interacted with the influence exerted by the United States in democratization processes. Further research into this phenomenon is required with more sophisticated measures of differential Soviet influence and its effect on the survival of different regime types. This would seem paramount in better understanding democratization trends and processes of the twentieth century.

Personal Observations

As I began writing this chapter, a friend asked me: what is your most surprising finding? My reply was that I was surprised that I actually had something relevant to say. Going into the project I expected the effects of the US military engagement measures would wash out and I would not have much to write about. There have been many controversial assertions about the negative aspects of US military engagement programs, particularly amongst those who seem eager to point to short-term failures and setbacks, rather than focusing on long-term trends. While short-term setbacks may be inevitable, they have also been disproportionately highlighted, oftentimes by those who lack direct

experience with the efforts of the US military to engage fellow military officers from nations across the political spectrum.

Having had personal experience both as a classmate of IMET participants and as a faculty member in one of the professional military educational institutes that host IMET participants, I have seen the friendships formed and the ideas exchanged. On a personal level, I count several foreign military officers as good friends - a result of their participation in IMET. At points in this research project I have benefited from their encouragement as well as anecdotes from their own experience interacting with military officers from around the world. On an intuitive level I knew that such an experience had made a difference in our perceptions of each other and our respective states. Having been stationed in both Saudi Arabia and the Republic of Korea, I also knew how that experience, as well as the experience of working closely with allied officers, had influenced my ideas and beliefs on a wide range of subjects from Islam to military doctrine to life styles. It seemed logical that the foreign officers who were hosted by the United States military should have similar experiences. But one can never be quite sure what the statistics will show.

Too often we discount the power that ideas and human interactions might have on world events. Material consequences are more easily observed and measured. But as constructivists are wont to point-out, material consequences are the result of how we have socially constructed the meaning and relevance that material objects have for us. I am greatly pleased that, rather fortuitously, I have found one way to demonstrate that constructivist mechanisms are relevant; human interaction can change ideas and those ideas matter in significant material ways that affect the quality of life for all of us.

APPENDIX A
COUNTRY-YEARS IN THE MASTER DATA SET

There are a total of 169 countries, 127 (75%) exist for the entire period 1972-2000. Those not existing for the entire period are marked with an asterisk for ease of viewing.

Country	Years in Dataset
Afghanistan	1972-2000
Albania	1972-2000
Algeria	1972-2000
Angola	1975-2000 *
Argentina	1972-2000
Armenia	1991-2000 *
Australia	1972-2000
Austria	1972-2000
Azerbaijan	1991-2000 *
Bahrain	1972-2000
Bangladesh	1972-2000
Belarus	1991-2000 *
Belgium	1972-2000
Benin	1972-2000
Bhutan	1972-2000
Bolivia	1972-2000
Bosnia-Herzegovina	1992-2000 *
Botswana	1972-2000
Brazil	1972-2000
Bulgaria	1972-2000
Burkina Faso	1972-2000
Burundi	1972-2000
Cambodia	1972-2000
Cameroon	1972-2000
Canada	1972-2000
Central African Republic	1972-2000
Chad	1972-2000
Chile	1972-2000
China (PRC)	1972-2000
Colombia	1972-2000
Comoros	1975-2000 *
Congo (Brazzaville)	1972-2000
Costa Rica	1972-2000
Croatia	1991-2000 *
Cuba	1972-2000
Cyprus	1972-2000
Czech Republic	1993-2000 *
Czechoslovakia	1972-1992 *

Denmark	1972-2000
Djibouti	1977-2000 *
Dominican Republic	1972-2000
Ecuador	1972-2000
Egypt	1972-2000
El Salvador	1972-2000
Equatorial Guinea	1972-2000
Eritrea	1993-2000 *
Estonia	1991-2000 *
Ethiopia	1972-2000
Fiji	1972-2000
Finland	1972-2000
France	1972-2000
Gabon	1972-2000
Gambia	1972-2000
Georgia	1991-2000 *
Germany, East	1972-1989 *
Germany, West	1972-1989 *
Germany, unified	1990-2000 *
Ghana	1972-2000
Greece	1972-2000
Guatemala	1972-2000
Guinea	1972-2000
Guinea-Bisseau	1974-2000 *
Guyana	1972-2000
Haiti	1972-2000
Honduras	1972-2000
Hungary	1972-2000
Iceland	1972-2000
India	1972-2000
Indonesia	1972-2000
Iran	1972-2000
Iraq	1972-2000
Ireland	1972-2000
Israel	1972-2000
Italy	1972-2000
Ivory Coast	1972-2000
Jamaica	1972-2000
Japan	1972-2000
Jordan	1972-2000
Kazakstan	1991-2000 *
Kenya	1972-2000
Korea, north	1972-2000
Korea, south	1972-2000
Kuwait	1972-2000

Kyrgyz Republic	1991-2000 *
Laos	1972-2000
Latvia	1991-2000 *
Lebanon	1972-2000
Lesotho	1972-2000
Liberia	1972-2000
Libya	1972-2000
Lithuania	1991-2000 *
Luxembourg	1972-2000
Macedonia	1992-2000 *
Madagascar	1972-2000
Malawi	1972-2000
Malaysia	1972-2000
Mali	1972-2000
Mauritania	1972-2000
Mauritius	1972-2000
Mexico	1972-2000
Moldova	1991-2000 *
Mongolia	1972-2000
Morocco	1972-2000
Mozambique	1975-2000 *
Myanmar (Burma)	1972-2000
Namibia	1990-2000 *
Nepal	1972-2000
Netherlands	1972-2000
New Zealand	1972-2000
Nicaragua	1972-2000
Niger	1972-2000
Nigeria	1972-2000
Norway	1972-2000
Oman	1972-2000
Pakistan	1972-2000
Panama	1972-2000
Papua New Guinea	1975-2000 *
Paraguay	1972-2000
Peru	1972-2000
Philippines	1972-2000
Poland	1972-2000
Portugal	1972-2000
Qatar	1972-2000
Romania	1972-2000
Russia	1992-2000 *
Rwanda	1972-2000
Saudi Arabia	1972-2000
Senegal	1972-2000

Sierra Leone	1972-2000
Singapore	1972-2000
Slovak Republic	1993-2000 *
Slovenia	1991-2000 *
Somalia	1972-2000
South Africa	1972-2000
Spain	1972-2000
Sri Lanka	1972-2000
Sudan	1972-2000
Swaziland	1972-2000
Sweden	1972-2000
Switzerland	1972-2000
Syria	1972-2000
Taiwan	1972-2000
Tajikistan	1991-2000 *
Tanzania	1972-2000
Thailand	1972-2000
Togo	1972-2000
Trinidad	1972-2000
Tunisia	1972-2000
Turkey	1972-2000
Turkmenistan	1991-2000 *
UAE	1972-2000
USSR	1972-1991 *
Uganda	1972-2000
Ukraine	1991-2000 *
United Kingdom	1972-2000
Uruguay	1972-2000
Uzbekistan	1991-2000 *
Venezuela	1972-2000
Vietnam, north	1972-1975 *
Vietnam, south	1972-1975 *
Vietnam, unified	1976-2000 *
Yemen, north	1972-1989 *
Yemen, south	1972-1989 *
Yemen, unified	1990-2000 *
Yugoslavia	1972-1990 *
Yugoslavia, Serbia+Mn	1991-2000 *
Zaire, Congo (Kinshasa)	1972-2000
Zambia	1972-2000
Zimbabwe	1972-2000

HANDLING OF POLITY IV STANDARDIZED AUTHORITY CODES

In the Polity IV cases used in my dataset there were 179 standardized authority codes of which 28 were -66 (authority interruption), 71 were -77 (authority collapse), and 80 were -88 (transition). Unless noted below these scores were handled in the manner suggested by the Polity IV Project using the index POLITY2 and as referenced in Monty G. Marshall, *Conversion of Polity IV Standardized Authority Codes,* 4 March 2002, <www.cidcm.umd.edu/inscr/polity/convert.htm> (21 February 2003). The Polity IV Project converts the standard authority codes such that: -66 is coded as a missing value, -77 is coded 0, -88 is prorated across the span of transition.

After the modifications listed below were made the dataset retained 15 missing values in the variable Polity_smooth. The country-years retaining missing values were Bosnia-Herzegovina 1995-2000 and Cambodia 1979-1987.

Modifications:

Afghanistan, 1978, 1992-1995. The standard Polity2 code of 0 (assigned for -77) was judged inaccurate (too high), and was altered to the median code between the previous and subsequent years.

Angola, 1991-1996. The standard Polity2 code of 0 (assigned for -77) was judged inaccurate (too high) for 1992 which then inflated the prorated scores assigned for the -88 codes in 1991 and 1993-1995. Instead, the entire period was prorated.

Burundi, 1992-1995. The standard Polity2 code of 0 (assigned for -77) was judged inaccurate (too high) for 1993-1995 which then inflated the code for 1992. Instead all years were prorated.

Chad, 1978-1984. The standard Polity2 code of 0 (assigned for -77) was judged inaccurate (too high) for 1979-1983 which then inflated the codes for 1978 and 1984. Instead all years were prorated.

Comoros 1995. The standard Polity2 code of 0 (assigned for -77) was judged inaccurate (too high). Instead the code for 1995 was prorated.

Ethiopia, 1974, a military coup overthrew Emperor Haile Selassie and established a socialist state. The standard Polity2 code of 0 was judged inaccurate (too high). Instead the code for 1974 was prorated.

Fiji, 2000, a coup in May 2000 overthrew the peacefully elected government with a period of political turmoil until parliamentary elections in August 2001 resulted in a new democratically elected government. In the Polity database the year 2000 was given a Polity score of -88. There is currently no Polity data beyond the year 2000. Since -88 is

normally converted by prorating across the span of transition, the Polity Project provided no rating. The score of 5 was assigned. This was judged consistent with the last ten years of governance and reflecting the fact that a new government was democratically elected in 2001.

Germany, East, 1989, in the Polity database the year 1989 was given a Polity score of -88. Since -88 is normally converted by prorating across the span of transition, the Polity Project provided no rating. The score of -9 was assigned. This was judged consistent with the Polity rating assigned since 1972.

Iran, 1979-1981, in the Polity database these three years were assigned -88 codes, however the year 1979 was not prorated, but was assigned a score of 0. This assignment was not consistent with the Polity Project rule for standard authority code conversion and also resulted in a Polity2 code of 0 (assigned for -77) for 1979 that was judged inaccurate (too high). The years 1979-1981 were prorated across the span of transition.

Kuwait, 1990, the standard authority code of -66 resulted in a Polity2 code of "system missing." This was converted to -10, the Polity2 code assigned for 1989.

Lebanon, 1990-2000, the standard authority code of -66 resulted in a Polity2 code of "system missing." This was converted to 0, as consistent with previous years and based on continuing, but lessening political turmoil.

Lesotho, 1999-2000, the standard authority code of -88 resulted in missing values for these two years. Since -88 is normally converted by prorating across the span of transition, the Polity Project provides no rating. The score of 0 was assigned. This was judged consistent with the year 1998 and reflects continuing political turmoil.

Nicaragua, 1979-1980, the standard Polity2 code of 0 (assigned for -77) was judged inaccurate (too high). Instead the codes for 1979 and 1980 were prorated.

Peru, 2000, the standard authority code of -88 resulted in a missing value for this year because -88 is normally converted by prorating across the span of transition. In November 2000 the head of state was removed by Congress, a caretaker government installed until elections in the spring of 2001 resulted in a new head of state and government. The score of 1 was assigned for the year 2000 as consistent with the score for 1999.

Somalia, 1991-2000, the standard Polity2 code of 0 (assigned for -77) was judged inaccurate (too high), the Polity code of -7 which had been consistently assigned for 1972-1990 was used.

Uganda, 1979, the standard authority code of -66 resulted in a Polity2 code of "system missing." This was converted to -2 by prorating.

Zaire, 1992-2000, the standard Polity2 code of 0 (assigned for -77) was judged inaccurate (too high); the Polity code of -8 was assigned as reflecting consistency with previous years.

APPENDIX C
COUNTRIES FORMALLY ALLIED WITH THE UNITED STATES, 1972-2000
CODING DATA AND SOURCE

A formal security alliance is defined as one in which the commitment is made in a written formal agreement such as a mutual defense treaty or nonaggression pact. The coding of security alliances and states' membership in formal treaty agreements is based on:

Charles L. Phillips and Alan Axelrod, *Encyclopedia of Historical Treaties and Alliances: From the 1920s to the Present*, New York: Facts on File, Inc., 2001.

Shown below are the treaties, their signatories and the relevant dates of security alliance membership on which the indicator variable Ally is based. Following is an alphabetical listing of countries allied to the United States 1972-2000.

Pact of Rio (Inter-American Treaty of Reciprocal Assistance), 1947

Argentina	Haiti
Bolivia	Honduras
Brazil	Mexico
Chile	Panama
Colombia	Paraguay
Costa Rica	Peru
Cuba (withdrew in 1960)	United States
Dominican Republic	Uruguay
El Salvador	Venezuela
Guatemala	

North Atlantic Treaty, 1949

Belgium	Italy
Canada	Luxembourg
Czech Republic (joined in 1999)	Netherlands
Denmark	Norway
France	Poland (joined in 1999)
Germany, unified (joined in 1990)	Portugal
Germany, West (joined in 1955)	Spain (joined in 1982)
Greece (joined in 1952)	Turkey (joined in 1952)
Hungary (joined in 1999)	United Kingdom
Iceland	United States

ANZUS Treaty, 1951

Australia
New Zealand (the United States suspended its ANZUS obligations to New Zealand in 1986)
United States

United States-South Korea Mutual Defense Treaty, 1953

Korea, South
United States

Southeast Asia Collective Defense Treaty, 1954 – dissolved in 1977
Australia
France
Great Britain
New Zealand
Pakistan
Philippines
Thailand
United States

United States-Nationalist China Mutual Defense Treaty, 1954
Taiwan
United States

Treaty of Mutual Cooperation and Security Between the United States and Japan, 1960
Japan
United States

Charter of the Organization of American States, 1948

Antigua and Barbuda	Haiti
Argentina	Honduras
Bahamas	Jamaica
Barbados (joined in 1967)	Mexico
Bolivia	Nicaragua
Brazil	Panama
Chile	Paraguay
Colombia	Peru
Costa Rica	St Kitts and Nevis
Cuba (expelled in 1962)	St Vincent and the Grenadines
Dominica	Suriname
Dominican Republic	Trinidad and Tobago (joined in 1967)
Ecuador	United States
El Salvador	Uruguay
Grenada	Venezuela
Guatemala	

Summary: Alphabetical Listing of Allied Countries (1972-2000):

Antigua and Barbuda
Argentina
Australia
Bahamas
Barbados (since 1967)
Belgium
Bolivia
Brazil
Canada
Chile
Colombia
Costa Rica
Czech Republic (since 1999)
Denmark
Dominica
Dominican Republic
Ecuador
El Salvador
France
Germany, unified (since 1990)
Germany, West (since 1955)
Greece (since 1952)
Grenada
Guatemala
Haiti
Holy See (since 1990)
Honduras
Hungary (since 1999)
Iceland

Italy
Jamaica
Japan
Korea, South
Luxembourg
Mexico
Netherlands
New Zealand
Nicaragua
Norway
Pakistan (through 1977, not as of 1978)
Panama
Paraguay
Peru
Philippines (through 1977, not as of 1978)
Poland (since 1999)
Portugal
Spain (since 1982)
St Kitts and Nevis
St Vincent and the Grenadines
Suriname
Taiwan
Thailand (through 1977, not as of 1978)
Trinidad and Tobago (since 1967)
Turkey (since 1952)
United Kingdom
Uruguay
Venezuela

APPENDIX D
US MILITARY PERSONNEL STATIONED OVERSEAS
DATA SOURCES

Main access is through: <http://web1.whs.osd.mil/mmid/military/history/309hist.htm>
(21 October 2002)

Data for 2000:
United States, Department of Defense, Washington Headquarters Services, Directorate
for Information Operations and Reports, *Department of Defense Selective Manpower
Statistics Fiscal Year 2000, Table 2-4 Active Duty Military Personnel Strengths by
Regional Area and by Country (309A),* September 30, 2000, on-line,
<<www.diors.whs.mil/mmid/m01/fy00/m01fy00.pdf> (21 October 2002).

Data for 1999:
United States, Department of Defense, Washington Headquarters Services, Directorate
for Information Operations and Reports, *Department of Defense Selective Manpower
Statistics Fiscal Year 1999, Table 2-4 Active Duty Military Personnel Strengths by
Regional Area and by Country (309A),* September 30, 1999, on-line,
<<www.diors.whs.mil/mmid/m01/fy99/m01fy99.pdf> (21 October 2002).

Data for 1998:
United States, Department of Defense, Washington Headquarters Services, Directorate
for Information Operations and Reports, *Department of Defense Selective Manpower
Statistics Fiscal Year 1998, Table 2-4 Active Duty Military Personnel Strengths by
Regional Area and by Country (309A),* September 30, 1998, on-line,
<<www.diors.whs.mil/mmid/m01/fy98/m01fy98.pdf> (21 October 2002).

Data for 1997:
United States, Department of Defense, Washington Headquarters Services, Directorate
for Information Operations and Reports, Military Personnel Statistics, Military Personnel
Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by
Country (309A),* September 30, 1997, on-line,
<web1.whs.osd.mil/mmid/military/history/hst0997.pdf> (21 October 2002).

Data for 1996:
United States, Department of Defense, Washington Headquarters Services, Directorate
for Information Operations and Reports, Military Personnel Statistics, Military Personnel
Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by
Country (309A),* September 30, 1996, on-line,
<web1.whs.osd.mil/mmid/military/history/hst0996.pdf> (21 October 2002).

Data for 1995:
United States, Department of Defense, Washington Headquarters Services, Directorate
for Information Operations and Reports, Military Personnel Statistics, Military Personnel

Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1995, on-line, <web1.whs.osd.mil/mmid/military/history/hst0995.pdf> (21 October 2002).

Data for 1994:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1994, on-line, <web1.whs.osd.mil/mmid/military/history/hst0994.pdf> (21 October 2002).

Data for 1993:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1993, on-line, <web1.whs.osd.mil/mmid/military/history/hst0993.pdf> (21 October 2002).

Data for 1992:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1992, on-line, <web1.whs.osd.mil/mmid/military/history/hst0992.pdf> (21 October 2002).

Data for 1991:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1991, on-line, <web1.whs.osd.mil/mmid/military/history/hst0991.pdf> (21 October 2002).

Data for 1990:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1990, on-line, <web1.whs.osd.mil/mmid/military/history/hst0990.pdf> (21 October 2002).

Data for 1989:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1989, on-line, <web1.whs.osd.mil/mmid/military/history/hst0989.pdf> (21 October 2002).

Data for 1988:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1988, on-line, <web1.whs.osd.mil/mmid/military/history/hst0988.pdf> (21 October 2002).

Data for 1987:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1987, on-line, <web1.whs.osd.mil/mmid/military/history/hst0987.pdf> (21 October 2002).

Data for 1986:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1986, on-line, <web1.whs.osd.mil/mmid/military/history/hst0986.pdf> (21 October 2002).

Data for 1985:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1985, on-line, <web1.whs.osd.mil/mmid/military/history/hst0985.pdf> (21 October 2002).

Data for 1984:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1984, on-line, <web1.whs.osd.mil/mmid/military/history/hst0984.pdf> (21 October 2002).

Data for 1983:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1983, on-line, <web1.whs.osd.mil/mmid/military/history/hst0983.pdf> (21 October 2002).

Data for 1982:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1982, on-line, <web1.whs.osd.mil/mmid/military/history/hst0982.pdf> (21 October 2002).

Data for 1981:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1981, on-line, <web1.whs.osd.mil/mmid/military/history/hst0981.pdf> (21 October 2002).

Data for 1980:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1980, on-line, <web1.whs.osd.mil/mmid/military/history/hst0980.pdf> (21 October 2002).

Data for 1979:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1979, on-line, <web1.whs.osd.mil/mmid/military/history/hst0979.pdf> (21 October 2002).

Data for 1978:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1978, on-line, <web1.whs.osd.mil/mmid/military/history/hst0978.pdf> (21 October 2002).

Data for 1977:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Active Duty Military Personnel Strengths by Regional Area and by Country (309A)*, September 30, 1977, on-line, <web1.whs.osd.mil/mmid/military/history/hst0977.pdf> (21 October 2002).

Data for 1976:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel

Historical Reports, *Deployment of Military Personnel by Country,* as of September 30, 1976, on-line, <web1.whs.osd.mil/mmid/military/history/hst0976.pdf> (21 October 2002).

Data for 1975:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Deployment of Military Personnel by Country*, as of September 30, 1975, on-line, <web1.whs.osd.mil/mmid/military/history/hst0975.pdf> (21 October 2002).

Data for 1974:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Deployment of Military Personnel by Country*, as of September 30, 1974, on-line, <web1.whs.osd.mil/mmid/military/history/hst0974.pdf> (21 October 2002).

Data for 1973:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Deployment of Military Personnel by Country,* as of September 30, 1973, on-line, <web1.whs.osd.mil/mmid/military/history/hst0973.pdf> (21 October 2002).

Data for 1972:
United States, Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, Military Personnel Statistics, Military Personnel Historical Reports, *Deployment of Military Personnel by Country*, as of September 30, 1972, on-line, <web1.whs.osd.mil/mmid/military/history/hst0972.pdf> (21 October 2002).

APPENDIX E
US MILITARY SALES DELIVERIES TO FOREIGN COUNTRIES
DATA SOURCES

The countries identified in this database are those that appeared on any of the Department of Defense spreadsheets listed in the sources below whether the source listed a substantial value of military sales deliveries, a negligible amount, or zero. Zero in the data indicates a reported value of zero, a value reported as "less than $50,000," or that the country name did not appear at all on the spreadsheet for that particular year. Since the purpose of this variable is to track which countries purchased a significant amount of military equipment and training, this coding of zero is reasonable. When the various sources were merged together into one listing, any country never listed in any source was coded zero for all years. The countries never identified by the Department of Defense in their reporting of US Military Sales Deliveries were: Afghanistan, Angola, Armenia, Azerbaijan, Belarus, Bhutan, Burkina Faso, Cyprus, Czechoslovakia, Fiji, Germany (East), Korea (North), Mongolia, Papua New Guinea, Russia, Swaziland, Tajikistan, Turkmenistan, USSR, Vietnam (North), and Yemen (South).

Data for 1992-2000:
Defense Security and Cooperation Agency, Office of the Secretary of Defense, *Foreign Military Sales Deliveries 1992-2000*, on-line, <www.dsca.osd.mil/programs/Comptroller/12001_FACTS/facts01delchart/FACTS%202 001%20FMS%20Deliveries3.xls> (30 October 2002).

Data for 1987-1991:
US Census Bureau, *Statistical Abstract of the US 1999*, CDROM, original source spreadsheet of data, accessed through Table 585, p 373.

Data for 1986:
US Census Bureau, *Statistical Abstract of the US 1995*, Table 561, p 362, on-line, <www.census.gov/prod/1/gen/95statab/defense.pdf> (23 October 2002).

Data for 1982-1985:
US Census Bureau, *Statistical Abstract of the US 1987*, Table 537, p 324.

Data for 1978-1981:
US Census Bureau, *Statistical Abstract of the US 1982-83*, Table 585, p 356.

Data for 1974-1977:
US Census Bureau, *Statistical Abstract of the US 1978*, Table 592, p 374.

Data for 1973:
US Census Bureau, *Statistical Abstract of the US 1975*, Table 512, p 318.

Data for 1972:
US Census Bureau, *Statistical Abstract of the US 1973*, Table 401, p 259.

ECONOMIC LEVEL OF DEVELOPMENT: GDP-PPP PER CAPITA
DATA SOURCES

Primary Source:

Alan Heston, Robert Summers and Bettina Aten, *Penn World Table Version 6.1*, Center for International Comparisons at the University of Pennsylvania (CICUP), October 2002, <pwt.econ.upenn.edu>.

Secondary Sources:

World Bank data from the United Nations, *UN Common Database*, <www.millenniumindicators.un.org/unsd/cdb/cdb_series_xrxx.asp?series_code=19480> (22 January 2003). Series called: GDP in current international dollar (PPPs) (WB estimates) [code 29923]

Central Intelligence Agency, *World Factbook*, various years

Alan Heston, Robert Summers and Bettina Aten, *Penn World Table Version 5.6*, Center for International Comparisons at the University of Pennsylvania (CICUP), January 1995, <pwt.econ.upenn.edu>.

Numbers interpolated:

Bosnia-Herzegovina, 1996
Cyprus, 1998
Djibouti, 1988-1992 and 1996
Germany, East, 1989
Iraq, 1988-1992 and 1994
Korea, North, 1993
Kuwait, 1972-1974
Liberia, 1987-1992 and 1996
Libya, 1996
Myanmar (Burma), 1990-1993
Oman, 1990-1992
Poland, 1978
Qatar, 1990-1992 and 1995
Somalia, 1997
Uzbekistan, 1991-1992
Yugoslavia, 1996

APPENDIX G
SOVIET FOREIGN ASSISTANCE
DATA SOURCES AND COUNTRIES IDENTIFIED

Summary Data for 1954-1990
Central Intelligence Agency, Directorate of Intelligence, *Handbook of Economic Statistics*, Washington, DC: US Government Printing Office, September 1991, Tables 112 and 114, 158,160.

Summary Data for 1954-1988
Central Intelligence Agency, Directorate of Intelligence, *Handbook of Economic Statistics*, Washington, DC: US Government Printing Office, September 1989, Tables 154 and 157, 175, 178.

Summary Data for 1954-1987
Central Intelligence Agency, Directorate of Intelligence, *Handbook of Economic Statistics*, Washington, DC: US Government Printing Office, September 1988, Tables 154 and 157, 178, 181.

Summary Data for 1954-1986
Central Intelligence Agency, Directorate of Intelligence, *Handbook of Economic Statistics*, Washington, DC: US Government Printing Office, September 1987, Tables 82 and 85, 113, 116.

Soviet economic aid data used to make the coding determination was taken from the above sources. A country was coded 1 for the years 1972-1990 if it received Soviet foreign assistance during the time span 1954-1990 as identified in any of the above documents. The countries coded 1 are:

Afghanistan	Czechoslovakia	Laos	Sri Lanka
Albania	Egypt	Madagascar	Sudan
Algeria	Equatorial	Mauritania	Syria
Angola	Guinea	Mongolia	Tanzania
Argentina	Ethiopia	Morocco	Tunisia
Bangladesh	Germany, East	Mozambique	Turkey
Bolivia	Ghana	Nicaragua	Uganda
Brazil	Guinea	Nigeria	Vietnam, North
Bulgaria	Hungary	Pakistan	Vietnam,
Burkina Faso	India	Poland	Unified
Cambodia	Indonesia	Romania	Yemen, North
Cameroon	Iran	Senegal	Yugoslavia
Cent African Rp	Iraq	Sierra Leone	Zaire
Cuba	Korea, North	Somalia	Zambia

APPENDIX H
ETHNIC AND RELIGION DIVERSITY DATA SOURCES

For Mid-Late-1990's

Primary Sources:

Defense & Foreign Affairs Handbook 1996, Gregory R. Copley, Editor, London: International Media Corporation Limited, 1996.

The Europa World Year Book 1995, London: England Europa Publications Limited, 1995.

Encyclopedia of the World's Nations, George Thomas Kurian, Editor, New York: Facts On File, Inc., 2002.

Supplementary Sources:

The World Fact Book 2002, Central Intelligence Agency, on-line, www.cia.gov/cia/publications/factbook/index.html <14-15 November 2002>.

Country Studies, Area Handbook Series, Library of Congress, Federal Research Division, on-line, lcweb2.loc.gov/frd/cs/cshome.html <13-15 November 2002>.

The International Year Book and Statesmen's Who's Who 1995/96, 43rd Edition, Reed Information Services, West Sussex, England.

Sources Used to Fill Gaps:

The New Encyclopedia Britannica, Macropaedia, Chicago: Encyclopedia Britannica, Inc., 2002, volume 29, entry for Western Africa, pp 790-915. Used for:

Benin, largest ethnic group is Fon at 40%, Christianity is 20% with 4/5's being Roman Catholic, p 861.

Equatorial Guinea, largest ethnic group is Fang at 80-90%, p 874.

Ghana, two-thirds of the population is Christian, p 878.

Liberia, largest ethnic group is the native Liberians, it is the majority of 3 groups, numbers not given; two-thirds of the population is Christian, p 891.

Mali, Muslims are Sunni's, p 842.

Niger, Sunni Muslims are 95%, p 852.

New Catholic Encyclopedia, 2nd Edition, Washington, DC: Catholic University of America, 2003, volume 8, p 551. Used for: Liberia, 24% Muslim, 24% Protestant, 10% Catholic, and 42% indigenous beliefs, p 551.

Encyclopedia of Africa South of the Sahara, New York: Charles Scribner's Sons, 1997, volume 2, p 575. Used for: Liberia, Kpelle is largest of 16 ethnolinguist groups at 20%.

Donald George Morrison, Robert Cameron Mitchell, and John Naber Paden, *Black Africa: A Comparative Handbook*, 2nd Edition, New York: Paragon House, 1989. Used for: Cameroon, Beti-Pahouin is the largest linguistic group at 24%, p 395.

Ethnologue.com, Languages of Albania, www.ethnologue.com/show_country.asp?name=Albania <21 November 2002>. 300,000 (8%) Albanian Ghegs and 2,900,000 (82%) Albanian Tosks, with percentages based on total population of 3,544,841 from the CIA *World Fact Book* 2002, on-line, www.cia.gov/cia/publications/factbook/geos/al.html <22 November 2002>.

Pakistan-Afghanistan Country Profile 1997-98, London: The Economist Intelligence Unit, 1998, 16; Pakistan, "56.1% lived in Punjab" according to the 1981 census.

France Country Profile 1993-94, London: The Economist Intelligence Unit, 1993, 17; France, in 1982 there were 3.7 million immigrants and in 1990 there were 3.6 million (6%); percentage based on a total population in 1990 of 56,103,000. *Defense & Foreign Affairs Handbook 1996* reports the Celtic-Latin figure.

Religions of the World, J. Gordon Melton and Martin Baumann, Eds, Santa Barbara, CA: ABC CLIO, Inc., 2002. Used for:

Bangladesh, 86% Muslim, 12% Hindu, 0.7% Christian, 1% Buddhist, volume 1, p 118.

China, 8% Buddhist in 2000, volume 2, p 237.

Guatemala, 98% Christian, 84% Catholic, 13% Protestant, 2% Buddhist, and 1% Muslim, volume 2, p 566.

Vietnam, 50% Buddhist, 8% Christian, 7% Catholic, and 1% Protestant.

Shahid Javed Burki, *Pakistan: the Continuing Search for Nationhood*, Boulder: Westview, 1991, p.30, the linguistic balance in Pakistan in 1981 was:

Punjabi: 48.2%
Sindhi: 11.8%

Muhajir/Urdu: 7.6%
Baluchi: 3%
Pushto: 13.1%
Other 6.5%

Andean Summits, www.andeansumits.com/i_bolivia8.html, accessed on 12 January 2003, "There is a common mistake to generalize and call the Indian population the Aymaras and Quechuas. The Aymaras are the largest ethnic group in Bolivia and are the dominant group in the highlands. ... The Quechuas do not really exist. They are actually several groups that adopted the language of the Incas, the Quechua. Surprisingly, the ones that spread that language were the Spaniards and not the Incas themselves. Probably the mistake has its roots there, when the conquerors thought that everyone living in the region was Inca." The *CIA World Factbook 2002* lists the Aymara as 25% of the population of Bolivia.

Oman, General Data of the Country, Werkgroep Seriële Publicaties (Working Alliance on Serial Publications), Library Universiteit Utrecht, accessed at www.library.uu.nl/wesp/populstat/Asia/omang.htm <12 January 2003>. Used for Omani Arabs constitute 73% of the population of Oman.

For Late-1970's

Primary Sources:

Defense & Foreign Affairs Handbook 1978, Editor Gregory R. Copley, Copley & Associates, S.A., London, 1978.

Encyclopedia of the Third World, George Thomas Kurian, Editor, New York: Facts On File, Inc., 1978.

The Europa World Year Book 1979, Europa Publications Limited, London, 1979.

The World Fact Book 1982, Central Intelligence Agency, Washington, DC, US GPO, April 1982.

Sources Used to Fill Gaps:

The International Year Book and Statesmen's Who's Who 1978, 26th Edition, Kelly's Directories Limited, Kingston upon Thames, England, 1978.

Area Handbook for Indonesia, Washington, DC: American University, 1975, p 208; most Christians are Protestants.

Area Handbook for Iraq, Washington, DC: American University, 1971, p 155; Christians are split between Eastern Orthodox, Catholic, and Protestant.

Area Handbook for Mongolia, Washington, DC: US Government Printing Office, 1975; Buddhism was "virtually extinguished in the 1930's."

Area Handbook for Mongolia, Washington, DC: Federal Research Division Library of Congress, 1991, p 103; since the early 1970's there was only one Buddhist monastery open and functioning.

Area Handbook for Pakistan, Washington, DC: American University, 1974, p 111; Punjab is spoken by 63% of the population; Jat is largest sub-group within Punjabis.

Current History Encyclopedia of Developing Nations, Eds Carol L. Thompson, Mary M. Anderberg, and Joan B. Antell, New York, McGraw-Hill, 1982. Used for Brazil, Amyara are 25% of population.

Information China, Chinese Academy of Social Sciences, New York: Pergamon Press, 1989, vol 3, p 1306. Used for: Religious Believers in PRC: Islam 14.0 million (1.3%); Catholic 3.0 mil (0.3%); Protestant 5.0 mil (0.48%); Buddhist 270,000; and Taoism 2,600; percentages based on a total population figure of 1,031,890,000 in volume 1, p 46.

Donald George Morrison, Robert Cameron Mitchell, and John Naber Paden, *Black Africa: A Comparative Handbook*, 2nd Edition, New York: Paragon House, 1989. Used for:

Djibouti, 9% Christian with 7% Catholic and 0% Protestant, pp 46-47.

Gabon, major ethnic group is Fang at 30%, p 458.

Sierra Leone, 9% Christian with 2% Catholic and 7% Protestant, pp 46-47.

Sudan, 9% Christian with 4% Catholic and 2% Protestant, pp 46-47.

Swaziland, 77% Christian with 11% Catholic and 66% Protestant, pp 46-47.

World Christian Encyclopedia, Editor David B. Barrett, Nairobi: Oxford University Press, 1982, p 244. Used for Comorian (Swahili) is 96.9% in Comoros. This is in absence of any data on the Antelaotra. The figure was used for the entire time span 1972-2000.

APPENDIX I
STATUS AS FORMER BRITISH COLONY
DATA SOURCE AND CODING

The variable was coded 1 for every year if the country was a British colony at any time after 1918. Source for determining whether a country had been a British colony was:

Former British Colonies and Commonwealth Members, list compiled by the Institute for Commonwealth Studies Library, School of Advanced Study, University of London, on-line at ww.dcs.gla.ac.uk/~jc/PRIVATE/EUROPE/World/GBColonies.html <27 November 2002>.

The countries that were British colonies after 1918 are listed below, date of independence is noted, and an asterisk (*) indicates that the country (there are 38 total) is in the master dataset for this study.

Anguilla, still BritCol
Antigua and Barbuda, 1981
Ascension, still BritCol
Bahamas, 1973
*Bahrain, 1971
*Bangladesh, 1947
Barbados, 1966
Belize, 1981
Bermuda, still BritCol
*Botswana, 1966
British Virgin Islands, still BritCol
Brunei, 1984
*Cameroon, 1961
Cayman Islands, still BritCol
*Cyprus, 1960
Dominica, 1978
*Egypt, 1922
Falkland Islands, still BritCol
*Fiji, 1970
*Gambia, 1965
*Ghana, 1957
Gibraltar, still BritCol
Grenada, 1974
*Guyana, 1966
Hong Kong, 1997 (to China)
*India, 1947
*Iraq, 1932
*Israel, Palestine, 1948
*Jamaica, 1962

*Jordan, 1946
*Kenya, 1963
Kiribati, 1979
*Kuwait, 1961
*Lesotho, 1966
*Malawi, 1964
*Malaysia, 1957/1963
Maldives, 1965
Malta, 1964
*Mauritius, 1968
Monserrat, still BritCol
*Myanmar, 1948
Nauru, 1968
*Nigeria, 1960
*Pakistan, 1947
*Papua New Guinea, 1975
Pitcairn, still BritCol
*Qatar, 1971
Seychelles, 1976
*Sierra Leone, 1961
*Singapore, 1957
Solomon Islands, 1978
*Somalia, 1960
South Georgia, still BritCol
South Sandwich Islands, still BritCol
*Sri Lanka, 1948
St Helena, still BritCol
St Kitts and Nevis, 1983
St Lucia, 1979
St Vincent and the Grenadines, 1979
*Sudan, 1956
*Swaziland, 1968
*Tanzania, 1961
Tongo, 1970
*Trinidad and Tobago, 1962
Tristan da Cunha, still BritCol
Turks and Caicos Islands, still BritCol
Tuvalu, 1978
*Uganda, 1962
Vanuatu, 1980
Western Samoa, 1962
*Yemen, Aden (south), 1967
*Zambia, 1964
*Zimbabwe, 1980

APPENDIX J
GDP IN CURRENT US DOLLARS
DATA SOURCES

Primary Source:

United Nations, *UN Common Database*
www.millenniumindicators.un.org/unsd/cdb/cdb_series_xrxx.asp?series_code=19480
<22 January 2003>. Series called: GDP at market prices, current prices, US$ (UN estimates) [code 19450]

Secondary Sources:

For Germany, East

1973: United Nations, *Handbook of International Trade and Development Statistics, 1976 Supplement*, UN: New York, 1976, chart 6.1, GNP

1975: United Nations, *Handbook of International Trade and Development Statistics, 1977 Supplement*, UN: New York, 1978, chart 6.1, GNP.

1976: United Nations, *Handbook of International Trade and Development Statistics, 1979 Supplement*, UN: New York, 1979, chart 6.1, GDP.

1977: United Nations, *Handbook of International Trade and Development Statistics, 1980 Supplement*, UN: New York, 1980, chart 6.1, GDP.

1978: United Nations, *Handbook of International Trade and Development Statistics, 1981 Supplement*, UN: New York, 1982, chart 6.1, GNP.

1979: United States Central Intelligence Agency, *World Factbook 1981*, Washington, DC: CIA, 1981, GNP.

1980-1989: United Nations, *Statistical Yearbook*, 43rd Edition, CD-ROM.

For Germany, West

1972-1974: United Nations, *Yearbook of National Accounts 1975*, vol. III, UN: NY, 1976, Table 1A, p 8.

1976: United Nations, *Yearbook of National Accounts 1977*, vol. II, UN: NY, 1978, Table 1A, p 8.

1975, 1977-1979: United Nations, *Yearbook of National Accounts 1980*, vol. II, UN: NY, 1982, Table 1A, p 8.

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1980-1989: United Nations, *Statistical Yearbook*, 43rd Edition, CD-ROM.

<u>For Taiwan</u>
1972-2000: Government of Taiwan, *National Statistics of Taiwan, Republic of China*, www.stat.gov.tw/bs4/nis/EP1.xls <24 January 2003>.

<u>Interpolated and Extrapolated Values:</u>

Germany, East, 1972 was extrapolated using the average change in GDP values between the subsequent five years.

Germany, East 1974 was interpolated as the median value between the previous year and the subsequent year.

Yemen, North, 1989 and Yemen South, 1989. Data was reported for Yemen, unified. The GDP for both Yemen, South and Yemen, North for 1988 were added together and the percentage that each country contributed to the cumulative 1988 figure was calculated. These percentages were then used to divide the Yemen, unified value for 1989. The percentages calculated were .779 to Yemen, North and .221 to Yemen, South.

APPENDIX K
TOTAL POPULATION
DATA SOURCES

Primary Source:

World Bank, *World Development Indicators*, CD-ROM, version 4.2, 2002.

Secondary Sources:

United Nations, *Demographic Yearbook CD-ROM*, Historical Supplement 1948-1997, UN: Statistics Division, 17 March 2000.

    Bosnia-Herzegovina, 1992-1994
    Comoros, 1975-1979
    Federal Republic of Germany, 1972-1989
    German Democratic Republic, 1972-1989
    Yemen, North (former Yemen Arab Republic), 1972-1989
    Yemen, South (former Peoples' Democratic Republic of Yemen), 1972-1989

United States Bureau of the Census, *International Data Base*, Total Midyear Population for Taiwan, accessed at http://blue.census.gov/cgi-bin/ipc/idbsprd <10 January 2003>.

    Taiwan, 1972-2000

APPENDIX L
COUNTRIES' MILITARY EXPENDITURES AND
MILITARY PERSONNEL NUMBERS
DATA SOURCES

EUGene/COW does not differentiate between a value that is missing or unknown from a value of zero, assigning an entry value of zero to both. This has been reconciled to the extent possible in my data set using available information. In the master data set for my study a coded value of zero indicates a true value of zero or for personnel a value of less than 500 persons; for expenditures a value of less than $50,000. In my master data set the code "." indicates a missing value, specifically a figure that is either unknown or unknowable.

In the final data set there are 9 missing value entries for personnel and 47 for expenditures. These are the countries most significantly affected and how they were affected:

Bhutan, 1972-1984, expenditure only
Cambodia, 1976-1987, expenditure only
Somalia, 1991-94, expenditure and personnel; also 1995, 1997, 1999 for personnel
Vietnam (unified), 1976-1983 and 1987-88, expenditure only

PRIMARY SOURCES:

1972-1988:
EUGene generated data from the Correlates of War dataset. Bennett, D. Scott, and Allan Stam. 2000. "*EUGene*: A Conceptual Manual," *International Interactions* vol 26, 179-204, <http://eugenesoftware.org>; and J. David Singer and Melvin Small, *National Military Capabilities Dataset*, Correlates of War Project, April 1999, <http://www.umich.edu/%7Ecowproj/capabilities.html>.

Switzerland, 1972-1988:
The data on military personnel was incorrect; it was corrected using *WMEAT 1972-1982* and *WMEAT 1990*.

1989-1999:
United States, Department of State, *World Military Expenditures and Arms Transfers (WMEAT) 1999-2000*, www.state.gov/t/vc/rls/rpt/wmeat/99_00/ <23 October 2002> EUGene/COW data was also used for 1989-1993 when the value is listed as "NA" by WMEAT 1999-2000.

1996 data for Romania (line entry for Romania 1996 was omitted from WMEAT 1999-2000):
United States Arms Control and Disarmament Agency,, *World Military Expenditures and Arms Transfers (WMEAT) 1998*, p 100, www.state.gov/www/global/arms/bureau_ac/wmeat98/table1.pdf

<1 November 2002>

2000:
International Institute for Strategic Studies, *The Military Balance 2001-2002*, Oxford University Press, October 2001.

SECONDARY SOURCES:

Stockholm International Peace Research Institute (SIPRI), *SIPRI Military Expenditure Database*, on-line, first.sipri.org/non_first/result_milex.php <2 November 2002>
Used for:
    Albania, 2000, personnel and expenditure;
    Armenia, 1993, expenditure;
    Cambodia, 1988-90, expenditure;
    Chad, 1993, 1997, 1998, expenditure;
    Gambia, 1989, 1991, expenditure;
    Kazakhstan, 1996, expenditure;
    Mauritania, 1988, expenditure;
    Nicaragua, 1989, expenditure;
    Tanzania, 1994, expenditure;
    Turkmenistan, 1994, expenditure.

US Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers (WMEAT) 1972-1998*,
Used for:
    Bangladesh, 1972, expenditure and personnel;
    Costa Rica, 1972-1977, personnel.
    Lesotho, 1972-1978, personnel;
    United Arab Emirates, 1972, expenditure.

US Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers (WMEAT) 1995*.
  Used for:
    Vietnam, 1990-1991, expenditure.

US Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers (WMEAT) 1993-1994*,
Used for:
    Angola, 1984, expenditure and personnel.

US Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers (WMEAT) 1990*.
Used for:
    Gambia, 1981-1988, personnel;
    Iran, 1981, expenditure and personnel;

Lesotho, 1979-1985, personnel;
Mauritius, 1983-1988, personnel.

US Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers (WMEAT) 1989.*
Used for:
Costa Rica, 1978-1988, personnel.

US Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers (WMEAT) 1996.*
Used for:
Vietnam, 1992-1995, expenditure;
Zaire, 1992-1993, expenditure.

International Institute for Strategic Studies, *The Military Balance 2001-2002*, Oxford University Press, October 2001.
Used for:
Afghanistan, 1999, expenditure;
Bhutan, 1999, 1985, expenditure;
Haiti, 1999, expenditure;
Liberia, 1999, expenditure;
Libya, 1999, expenditure;
Somalia, 1998, personnel;
Somalia, 1999, expenditure;
Vietnam, 1999, expenditure;
Zaire, 1999, expenditure.

International Institute for Strategic Studies, *The Military Balance 1999-2000*, Oxford University Press, October 1999.
Used for:
Afghanistan, 1998, expenditure and personnel;
Bhutan, 1997-1998, expenditure;
Equatorial Guinea, 1985, 1997-1998, expenditure;
Guinea, 1985, expenditure;
Haiti 1994-2000, military personnel numbers (3000 person Interim Public Security Force);
Haiti, 1997-1998, expenditure;
Honduras, 1997-1998, expenditure;
Libya, 1997-1998, expenditure;
Mauritania, 1998, expenditure;
Somalia, 1997-1998, expenditure;
Togo, 1998, expenditure;
Liberia, 1997, personnel;
Liberia, 1998, personnel and expenditure;
Vietnam, 1997-1998, expenditure;

Zaire, 1997-1998, expenditure.

International Institute for Strategic Studies, *The Military Balance 1997-1998*, Oxford University Press, October 1997.
  Used for:
    Afghanistan, 1995-1996, expenditure;
    Afghanistan, 1996, personnel;
    Haiti, 1995-1996, expenditure;
    Honduras, 1996, expenditure;
    Liberia, 1995, expenditure;
    Liberia, 1996, personnel and expenditure;
    Libya, 1996, expenditure;
    Somalia, 1995-1996, expenditure;
    Somalia, 1996, personnel;
    Vietnam, 1996, expenditure;
    Yugoslavia (Serbia+Montenegro), 1996, expenditure;
    Zaire, 1996, expenditure.

International Institute for Strategic Studies, *The Military Balance 1996-1997*, Oxford University Press, October 1996.
  Used for:
    Afghanistan, 1995, personnel;
    Haiti, 1994, expenditure;
    Liberia, 1995, personnel;
    Zaire, 1994-1995, expenditure.

International Institute for Strategic Studies, *The Military Balance 1995-1996*, Oxford University Press, October 1995.
  Used for:
    Equatorial Guinea, 1993, expenditure;
    Haiti, 1994, expenditure;
    Iraq, 1993, expenditure;
    Liberia, 1994, personnel and expenditure;
    Macedonia, 1993, expenditure;
    Turkmenistan, 1993, expenditure;
    Yugoslavia (Serbia+Montenegro), 1993-1994, expenditure.

International Institute for Strategic Studies, *The Military Balance 1993-1994*, Oxford University Press, October 1993.
  Used for:
    Cuba, 1992, expenditure;
    Cyprus, 1992, expenditure;
    Gabon, 1991, expenditure;
    Georgia, 1992, personnel;
    Iraq, 1991, expenditure;

Libya, 1985, expenditure.

International Institute for Strategic Studies, *The Military Balance 1992-1993*, Oxford University Press, Autumn 1992.
Used for:
Benin, 1991, personnel and expenditure;
Laos, 1990, expenditure;
Trinidad, 1990, expenditure.

International Institute for Strategic Studies, *The Military Balance 1985-86*, Oxford University Press, Autumn 1985.
Used for:
Guinea, 1980, expenditure.

World Bank, *2002 World Development Indicators*, CDROM, Win*STARS Version 4.2.
Used for:
Vietnam, 1989, 1992-1993, expenditure.

Defense & Foreign Affairs Handbook 1999, Ed. Gregory R. Copley, International Strategic Studies Association, Alexandria, VA, 1999, p 330.
Used for:
Comoros, 1993-2000, personnel.

Library of Congress, Federal Research Division, *Country Studies*, Area Handbook Series, on-line,
lcweb2.loc.gov/frd/cs/cshome.html <9 November 2002>.
Used for:
Comoros, 1975-1978, personnel;
Mauritius, 1972-1973, 1977-1982, personnel,

DATA INTERPOLATED FROM CONTIGUOUS ENTRIES:

For Personnel:
Afghanistan, 1997, 1999
Armenia, 1991
Azerbaijan, 1991
Belarus, 1991
Djibouti, 1977
Estonia, 1991
Kazakhstan, 1991
Kyrgyz Republic, 1991
Latvia, 1991
Liberia, 1997, 1999
Lithuania, 1991
Moldova, 1991

Swaziland, 2000
Tajikistan, 1991
Turkmenistan, 1991
Ukraine, 1991
Uzbekistan, 1991
Yemen, South 1990

For Expenditures:
Afghanistan, 1986-1989, 1991-1994, 1997
Angola, 1976-1978
Belarus, 1991
Bhutan, 1986-1996
Bosnia-Herzegovina, 1992, 1993
Comorros, 1975-1979, 1983, 1985, 1986, 1988-2000 (based on average change 1980-1987)
Cuba, 1976
Djibouti, 1977-1978
Estonia, 1991
Equatorial Guinea, 1977-1979, 1983-1984, 1986-1992
Gambia, 1982, 1984, 1986
Germany, East, 1991
Guinea, 1976, 1978, 1979, 1986, 1987
Guinea-Bisseau, 1975, 1988, 1991
Haiti, 1986
Kazakhstan, 1991
Kyrgyz Republic, 1991
Laos, 1982-1983, 1986-1988, 1991
Latvia, 1991
Lesotho, 1980, expenditures
Liberia, 1991
Lithuania, 1991
Macedonia, 1993
Papua New Guinea, 1975
Qatar, 1982, 1986, 1989, 1990
Tajikistan, 1991
Trinidad, 1987, 1988, 1991
Turkmenistan, 1991
Uzbekistan, 1991
Yemen, South 1990

APPENDIX M
OVERALL SURVIVAL OF CONSOLIDATED DEMOCRACIES
MATHEMATICAL REPRESENTATION OF
KAPLAN-MEIER ESTIMATION

Time	Beg. Total	Fail	Survivor Function	Std. Error	[95% Conf. Int.]	
2	83	2	0.9759	0.0168	0.9071	0.9939
3	79	1	0.9636	0.0207	0.8912	0.9881
4	76	2	0.9382	0.0268	0.8578	0.9738
5	75	2	0.9132	0.0314	0.8264	0.9577
6	69	4	0.8602	0.0392	0.7616	0.9201
7	64	1	0.8468	0.0408	0.7457	0.9101
8	61	1	0.8329	0.0424	0.7293	0.8995
9	58	0	0.8329	0.0424	0.7293	0.8995
10	50	1	0.8163	0.0447	0.7085	0.8872
11	47	0	0.8163	0.0447	0.7085	0.8872
12	45	0	0.8163	0.0447	0.7085	0.8872
13	43	1	0.7973	0.0475	0.6842	0.8735
14	42	0	0.7973	0.0475	0.6842	0.8735
15	41	1	0.7778	0.0502	0.6599	0.8591
16	41	0	0.7778	0.0502	0.6599	0.8591
17	39	0	0.7778	0.0502	0.6599	0.8591
18	38	0	0.7778	0.0502	0.6599	0.8591
19	37	0	0.7778	0.0502	0.6599	0.8591
22	36	2	0.7346	0.0559	0.6063	0.8269
23	34	0	0.7346	0.0559	0.6063	0.8269
25	33	0	0.7346	0.0559	0.6063	0.8269
26	31	0	0.7346	0.0559	0.6063	0.8269
27	30	1	0.7101	0.0592	0.5760	0.8086
28	29	0	0.7101	0.0592	0.5760	0.8086

APPENDIX N
OVERALL SURVIVAL OF CONSOLIDATED AUTHORITARIAN STATES
MATHEMATICAL REPRESENTATION OF
KAPLAN-MEIER ESTIMATION

Time	Beg. Total	Fail	Survivor Function	Std. Error	[95% Conf. Int.]	
2	100	5	0.9271	0.0266	0.8529	0.9646
3	95	3	0.8978	0.0307	0.8182	0.9437
4	92	3	0.8686	0.0340	0.7843	0.9215
5	89	3	0.8393	0.0368	0.7511	0.8983
6	85	6	0.7800	0.0414	0.6855	0.8492
7	79	2	0.7603	0.0427	0.6641	0.8324
8	80	3	0.7318	0.0441	0.6339	0.8074
9	78	3	0.7036	0.0453	0.6045	0.7823
10	75	2	0.6849	0.0460	0.5851	0.7654
11	73	3	0.6567	0.0469	0.5562	0.7398
12	71	2	0.6382	0.0474	0.5375	0.7227
13	69	3	0.6105	0.0479	0.5096	0.6968
14	67	1	0.6014	0.0481	0.5005	0.6882
15	68	3	0.5748	0.0483	0.4744	0.6629
16	65	6	0.5218	0.0485	0.4229	0.6116
17	59	8	0.4510	0.0479	0.3555	0.5417
18	51	5	0.4068	0.0471	0.3142	0.4972
19	47	14	0.2856	0.0428	0.2051	0.3711
20	34	2	0.2688	0.0419	0.1906	0.3531
21	33	5	0.2281	0.0393	0.1561	0.3085
22	29	3	0.2045	0.0375	0.1366	0.2821
23	26	3	0.1809	0.0356	0.1174	0.2555
24	23	0	0.1809	0.0356	0.1174	0.2555
26	22	2	0.1645	0.0342	0.1041	0.2369
28	19	0	0.1645	0.0342	0.1041	0.2369

APPENDIX O
OVERALL SURVIVAL OF MIDDLE GROUND TO DEMOCRACY
MATHEMATICAL REPRESENTATION OF
KAPLAN-MEIER ESTIMATION

Time	Beg. Total	Fail	Survivor Function	Std. Error	[95% Conf. Int.]	
2	101	9	0.8488	0.0435	0.7388	0.9150
3	88	4	0.8102	0.0456	0.7007	0.8829
4	77	2	0.7892	0.0468	0.6792	0.8651
5	76	3	0.7580	0.0483	0.6474	0.8382
6	73	2	0.7372	0.0492	0.6263	0.8199
7	72	2	0.7168	0.0499	0.6056	0.8016
8	64	2	0.6944	0.0508	0.5826	0.7817
9	56	2	0.6696	0.0519	0.5567	0.7598
10	45	0	0.6696	0.0519	0.5567	0.7598
11	34	3	0.6105	0.0574	0.4882	0.7120
12	30	3	0.5494	0.0616	0.4214	0.6603
13	27	0	0.5494	0.0616	0.4214	0.6603
14	28	0	0.5494	0.0616	0.4214	0.6603
16	30	2	0.5128	0.0627	0.3844	0.6272
18	27	1	0.4938	0.0632	0.3654	0.6098
19	28	1	0.4762	0.0633	0.3484	0.5932
20	26	2	0.4395	0.0635	0.3134	0.5586
21	23	1	0.4204	0.0636	0.2953	0.5404
22	22	0	0.4204	0.0636	0.2953	0.5404
23	20	0	0.4204	0.0636	0.2953	0.5404
24	17	2	0.3710	0.0650	0.2461	0.4959
25	14	0	0.3710	0.0650	0.2461	0.4959
26	13	0	0.3710	0.0650	0.2461	0.4959
27	14	2	0.3180	0.0656	0.1957	0.4471
28	12	1	0.2915	0.0653	0.1720	0.4217

APPENDIX P
OVERALL SURVIVAL OF MIDDLE GROUND TO AUTHORITARIAN
MATHEMATICAL REPRESENTATION OF
KAPLAN-MEIER ESTIMATION

Time	Beg. Total	Fail	Survivor Function	Std. Error	[95% Conf. Int.]	
2	96	5	0.8426	0.0488	0.7174	0.9155
3	86	3	0.8132	0.0499	0.6907	0.8909
4	78	5	0.7611	0.0519	0.6406	0.8459
5	73	2	0.7402	0.0525	0.6203	0.8274
6	71	1	0.7298	0.0528	0.6101	0.8181
7	72	3	0.6994	0.0534	0.5807	0.7904
8	63	4	0.6550	0.0545	0.5369	0.7499
9	55	1	0.6431	0.0548	0.5250	0.7390
10	48	3	0.6029	0.0560	0.4842	0.7026
11	33	0	0.6029	0.0560	0.4842	0.7026
12	28	0	0.6029	0.0560	0.4842	0.7026
13	27	0	0.6029	0.0560	0.4842	0.7026
14	28	0	0.6029	0.0560	0.4842	0.7026
16	30	1	0.5828	0.0577	0.4615	0.6859
17	28	1	0.5620	0.0592	0.4383	0.6685
18	26	0	0.5620	0.0592	0.4383	0.6685
19	27	0	0.5620	0.0592	0.4383	0.6685
20	25	1	0.5395	0.0610	0.4133	0.6499
22	23	0	0.5395	0.0610	0.4133	0.6499
23	22	0	0.5395	0.0610	0.4133	0.6499
24	17	0	0.5395	0.0610	0.4133	0.6499
25	16	1	0.5058	0.0658	0.3712	0.6257
26	14	0	0.5058	0.0658	0.3712	0.6257
27	12	0	0.5058	0.0658	0.3712	0.6257
28	11	0	0.5058	0.0658	0.3712	0.6257

SURVIVAL DESCRIPTION OF THE FOUR DATA SETS

Consolidated Democracy Data Set:

Category	total		per subject		
		mean	min	median	max
no. of subjects	83				
no. of records	1328	16	1	15	28
(first) entry time		.4939759	0	0	1
(final) exit time		16.66265	2	15	28
subjects with gap	3				
time on gap if gap	14	4.666667	2	2	10
time at risk	1328	16	1	15	28
failures	19	.2289157	0	0	2

Consolidated Authoritarian Data Set:

Category	total		per subject		
		mean	min	median	max
no. of subjects	102				
no. of records	1653	16.20588	2	17	28
(first) entry time		.1862745	0	0	1
(final) exit time		17.01961	2	18	28
subjects with gap	14				
time on gap if gap	64	4	1	3	17
time at risk	1653	16.20588	2	17	28
failures	92	.9019608	0	1	3

Middle Ground to Democracy Data Set:

Category	total	per subject			
		mean	min	median	max
no. of subjects	109				
no. of records	1118	10.25688	1	9	28
(first) entry time		.7247706	0	1	7
(final) exit time		12.88991	1	10	28
subjects with gap	27				
time on gap if gap	208	6.5	1	5	20
time at risk	1118	10.25688	1	9	28
failures	47	.4311927	0	0	2

Middle Ground to Authoritarian Data Set:

Category	total	per subject			
		mean	min	median	max
no. of subjects	108				
no. of records	1107	10.25	1	9	28
(first) entry time		.7685185	0	1	6
(final) exit time		12.83333	1	10	28
subjects with gap	23				
time on gap if gap	196	7.259259	1	7	21
time at risk	1107	10.25	1	9	28
failures	36	.3333333	0	0	2

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APPENDIX R
CONSOLIDATED DEMOCRACIES:
COX PROPORTIONAL HAZARD REGRESSION RESULTS
USING INDICATOR US MILITARY ENGAGEMENT COVARIATES

	Basic Model	Model 1	Model 2	Model 3	Model 4	Model 5	Full Model
IMETyesno	-	0.16 (.813)	-	-	-	-	(illegible)
Ally	-	-	-0.81 (.389)	-	-	-	-0.57 (.559)
USmilyesno	-	-	-	-1.31 (.082)	-	-	-1.38 (.069)
milaidyesno	-	-	-	-	-0.79 (.205)	-	-2.57 (.017)
milsalesyesno	-	-	-	-	-	0.06 (.918)	0.20 (.737)
soviet_foreign_asst	(illegible)	(illegible)	(illegible)	(illegible)	(illegible)	(illegible)	(illegible)
USeconaid_norm	12.02 (.275)	12.75 (.270)	12.82 (.239)	14.12 (.207)	9.88 (.351)	12.26 (.277)	(illegible)
newc	(illegible)	(illegible)	0.75 (.503)	1.16 (.222)	(illegible)	(illegible)	0.76 (.539)
britcol	-1.35 (.086)	-1.28 (.126)	-1.20 (.127)	-1.28 (.117)	-1.77 (.041)	-1.33 (.098)	-1.43 (.107)
open_i	-0.00 (.769)	-0.00 (.755)	-0.00 (.721)	-0.01 (.274)	-0.00 (.804)	-0.00 (.779)	-0.02 (.182)
GDP_PPP_per_capita	-0.00 (.011)	-0.00 (.011)	-0.00 (.010)	-0.00 (.013)	-0.00 (.007)	-0.00 (.011)	-0.00 (.002)
Ethnic_gp	1.11 (.323)	1.18 (.311)	1.12 (.317)	1.20 (.285)	1.06 (.341)	1.09 (.344)	(illegible)
muslim_majority_yesno	(illegible)	(illegible)	(illegible)	(illegible)	(illegible)	(illegible)	(illegible)
christian_majority_yesno	(illegible)	(illegible)	(illegible)	(illegible)	(illegible)	(illegible)	(illegible)
Global PH test	0.8589	0.9006	0.9175	0.7271	0.9240	0.7479	0.8776
Likelihood ratio test							0.0860

Numbers reported are: coefficient (P>|z|), except as noted for the global test of the proportional hazards assumption and the likelihood ratio test, both of which are reported as PR>chi2. All coefficient values have been rounded to the nearest hundredth.

CONSOLIDATED AUTHORITARIAN STATES
COX PROPORTIONAL HAZARD REGRESSION RESULTS
USING INDICATOR US MILITARY ENGAGEMENT COVARIATES

	Basic Model	Model 1	Model 2	Model 3	Model 4	Model 5	Full Model
IMETyesno	-	-0.98 (.000)	-	-	-	-	0.09 (.871)
Ally	-	-	-1.38 (.000)	-	-	-	(.)
USMil_normforeignMil	-	-	-	0.27 (.207)	-	-	0.28 (.207)
milaidyesno	-	-	-	-	(.000)	-	(.)
milsalesyesno	-	-	-	-	-	(.004)	0.25 (.404)
soviet_foreign_asst	-0.08 (.778)	0.07 (.788)	0.18 (.526)	-0.07 (.789)	0.08 (.756)	-0.03 (.904)	0.22 (.437)
USeconaid_norm	14.57 (.079)	8.46 (.369)	7.99 (.387)	12.67 (.137)	8.15 (.385)	14.80 (.079)	4.23 (.674)
newc	-0.73 (.006)	-0.92 (.001)	-0.40 (.178)	-0.71 (.008)	-0.94 (.001)	-0.69 (.010)	-0.66 (.029)
opentimeslntime	-0.00 (.636)	-0.00 (.504)	0.00 (.952)	-0.00 (.717)	-0.00 (.457)	-0.00 (.663)	-0.00 (.748)
GDP_PPP_per_capita	-0.00 (.396)	-0.00 (.270)	-0.00 (.315)	-0.00 (.372)	-0.00 (.817)	-0.00 (.228)	-0.00 (.598)
Ethnic_gp	-0.21 (.623)	-0.18 (.680)	-0.45 (.300)	-0.23 (.596)	-0.16 (.708)	-0.22 (.610)	-0.34 (.425)
muslim_majority_yesno	-0.23 (.459)	-0.50 (.127)	-0.19 (.542)	-0.23 (.462)	-0.52 (.113)	-0.39 (.236)	-0.50 (.134)
christian_majority_yesno	0.09 (.739)	-0.09 (.741)	-0.19 (.512)	0.07 (.795)	-0.16 (.563)	0.10 (.721)	-0.33 (.266)
Global PH test	0.2374	0.6917	0.4614	0.2602	0.7440	0.4409	0.8798
Likelihood ratio test							0.0001

Numbers reported are: coefficient (P>|z|), except as noted for the global test of the proportional hazards assumption and the likelihood ratio test, both of which are reported as PR>chi2. All coefficient values have been rounded to the nearest hundredth.

APPENDIX T
MIDDLE GROUND TO DEMOCRACY
COX PROPORTIONAL HAZARD REGRESSION RESULTS
USING INDICATOR US MILITARY ENGAGEMENT COVARIATES

	Basic Model	Model 1	Model 2	Model 3	Model 4	Model 5	Full Model
IMETyesno	-	0.54 (.146)	-	-	-	-	0.83 (.204)
Ally	-	-	-0.87 (.037)	-	-	-	0.30 (.502)
Usmilyesno	-	-	-	1.53 (.001)	-	-	1.43 (.001)
milaidyesno	-	-	-	-	0.20 (.541)	-	-0.80 (.143)
milsalesyesno	-	-	-	-	-	0.59 (.066)	0.05 (.890)
soviet_foreign_asst	0.47 (.239)	0.60 (.156)	0.51 (.210)	0.42 (.306)	0.53 (.200)	0.50 (.223)	0.36 (.399)
USeconaid_norm	2.13 (.817)	1.83 (.849)	3.50 (.706)	5.47 (.558)	2.07 (.824)	2.20 (.821)	5.86 (.535)
newc	-0.32 (.430)	-0.29 (.471)	-0.01 (.987)	0.19 (.673)	-0.30 (.453)	-0.21 (.600)	0.27 (.569)
britcol_lntime	-0.66 (.058)	-0.71 (.044)	-0.61 (.083)	-0.81 (.024)	-0.68 (.053)	-0.68 (.052)	-0.81 (.028)
open_i	-0.01 (.113)	-0.01 (.135)	-0.01 (.145)	-0.01 (.118)	-0.01 (.125)	-0.01 (.116)	-0.01 (.111)
GDP_PPP_per_capita	0.00 (.039)	0.00 (.057)	0.00 (.018)	0.00 (.209)	0.00 (.040)	0.00 (.052)	0.00 (.267)
Ethnic_gp	1.20 (.075)	1.24 (.095)	0.83 (.249)	0.85 (.198)	1.17 (.085)	1.14 (.092)	0.76 (.283)
muslim_majority_yesno	0.20 (.679)	0.19 (.703)	0.44 (.397)	0.31 (.550)	0.19 (.706)	0.17 (.738)	0.45 (.409)
christian_majority_yesno	0.53 (.231)	0.51 (.244)	0.35 (.470)	0.25 (.594)	0.51 (.244)	0.52 (.238)	0.27 (.590)
Global PH test	0.8141	0.7681	0.9152	0.9795	0.6481	0.8138	0.9930
Likelihood ratio test							0.0085

Numbers reported are: coefficient (P>|z|), except as noted for the global test of the proportional hazards assumption and the likelihood ratio test, both of which are reported as PR>chi2. All coefficient values have been rounded to the nearest hundredth.

APPENDIX U
MIDDLE GROUND TO AUTHORITARIAN
COX PROPORTIONAL HAZARD REGRESSION RESULTS
USING INDICATOR US MILITARY ENGAGEMENT COVARIATES

	Basic Model	Model 1	Model 2	Model 3	Model 4	Model 5	Full Model
IMETyesno	-	0.02 (.965)	-	-	-	-	-0.53 (.584)
Ally	-	-	1.22 (.076)	-	-	-	0.66 (.364)
Usmilyesno	-	-	-	0.96 (.052)	-	-	0.74 (.?)
milaidyesno	-	-	-	-	0.00 (.998)	-	0.02 (.980)
milsalesyesno	-	-	-	-	-	0.91 (.025)	0.62 (.164)
soviet_foreign_asst	-0.61 (.139)	-0.62 (.140)	-0.58 (.167)	0.56 (.182)	-0.61 (.141)	0.72 (.090)	0.59 (.172)
USeconaid_norm	-13.28 (.516)	-13.47 (.520)	-7.56 (.717)	-10.15 (.620)	-13.29 (.525)	-17.90 (.395)	-5.67 (.791)
newc	-0.16 (.756)	-0.15 (.769)	0.45 (.478)	0.44 (.442)	-0.15 (.761)	0.25 (.642)	0.81 (.209)
britcol	0.84 (.046)	0.84 (.051)	0.93 (.036)	0.62 (.150)	0.84 (.049)	0.79 (.064)	0.78 (.086)
open_i	-0.01 (.137)	-0.01 (.138)	-0.01 (.168)	-0.01 (.108)	-0.01 (.137)	-0.01 (.120)	-0.01 (.121)
GDP_PPP_per_capita	-0.00 (.093)	-0.00 (.094)	-0.00 (.092)	-0.00 (.045)	-0.00 (.094)	-0.00 (.055)	-0.00 (.046)
Ethnic_gp	1.14 (.147)	1.14 (.147)	1.00 (.213)	1.08 (.174)	1.14 (.147)	1.58 (.06)	1.?? (.129)
muslim_majority_yesno	-0.42 (.387)	-0.42 (.386)	-0.39 (.406)	-0.43 (.365)	-0.42 (.389)	-0.65 (.195)	-0.56 (.265)
christian_majority_yesno	-0.01 (.976)	-0.01 (.979)	-0.18 (.530)	-0.02 (.929)	-0.01 (.976)	-0.01 (.978)	-0.14 (.640)
Global PH test	0.5920	0.6589	0.7022	0.7399	0.6404	0.5435	0.6247
Likelihood ratio test							0.1361

Numbers reported are: coefficient (P>|z|), except as noted for the global test of the proportional hazards assumption and the likelihood ratio test, both of which are reported as PR>chi2. All coefficient values have been rounded to the nearest hundredth.

Full Model Covariates	Basic Model	Full Model	Composite Covariates	Comp D1	Comp D2	Comp C1	Comp C2
IMETyesno	-	2.47 (.040)	Mil contact	-0.47 (.323)	-	-	-
Ally	-	-0.57 (.559)	Mil contact less Ally	-	-0.38 (.493)	-	-
USmilyesno	-	-1.38 (.069)	Mil finance	0.04 (.925)	0.02 (.972)	-	-
milaidyesno	-	-2.57 (.017)	Ally	-	-0.71 (.467)	-	-0.76 (.402)
milsalesyesno	-	0.20 (.737)	Military contact	-	-	0.00 (.993)	-
			Military contact less Ally	-	-	-	0.54 (.467)
			Military finance	-	-	-56.43 (.234)	-65.07 (.195)
Basic Model Covariates							
soviet_foreign_asst	1.58 (.045)	2.03 (.029)		1.98 (.025)	1.91 (.020)	2.02 (.024)	2.01 (.022)
USeconaid_norm	12.02 (.275)	16.77 (.156)		11.03 (.312)	11.30 (.302)	11.51 (.286)	14.57 (.201)
newc	1.40 (.097)	0.76 (.539)		1.07 (.275)	0.87 (.471)	0.67 (.132)	0.61 (.583)
britcol	-1.35 (.086)	-1.43 (.107)		-1.42 (.093)	-1.37 (.109)	-1.65 (.045)	-1.35 (.116)
open_i	-0.00 (.769)	-0.02 (.182)		-0.01 (.552)	-0.01 (.577)	0.00 (.987)	-0.00 (.927)
GDP_PPP_per_capita	-0.00 (.011)	-0.00 (.002)		-0.00 (.012)	-0.00 (.012)	-0.00 (.009)	-0.00 (.007)
Ethnic_gp	1.11 (.323)	1.86 (.146)		0.94 (.412)	0.99 (.393)	2.13 (.162)	2.18 (.111)
muslim_majority_yesno	2.09 (.018)	3.25 (.006)		3.18 (.016)	2.25 (.017)	2.47 (.008)	3.19 (.006)
christian_majority_yesno	2.00 (.063)	3.70 (.011)		2.40 (.034)	2.47 (.033)	2.11 (.064)	2.49 (.036)
Global PH test	0.8589	0.8776		0.8912	0.9165	0.6992	0.7960
Likelihood ratio test	0.0860			0.4990	0.6879	0.3484	0.3517

Numbers reported are: coefficient (P>|z|), except as noted for the global test of the proportional hazards assumption and the likelihood ratio test, both of which are reported as PR>chi2. All coefficient values have been rounded to the nearest hundredth. Models Comp D1 and Comp D2 contain the dichotomous composite covariates; models Comp C1 and Comp C2 contain the continuous composite covariates.

Mil contact = IMETyesno + USmilyesno + Ally
Mil contact less Ally = IMETyesno + USmilyesno
Mil finance = milaidyesno + milsalesyesno
Military contact = IMETyesno + USmil_norm_scaled + Ally
Military contact less Ally = IMETyesno + USmil_norm_scaled
Military finance = USmilasst_norm_scaled + USmilsales_norm_scaled

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APPENDIX W

CONSOLIDATED AUTHORITARIAN STATES - COMPARISON OF COX MODEL RESULTS

Full Model Covariates	Basic Model	Full Model	Composite Covariates	Comp D1	Comp D2	Comp C1	Comp C2
IMETyesno	-	0.09 (.871)	Mil contact	0.76 (.634)	-	-	-
Ally	-	0.85 (.038)	Mil contact less Ally	-	-0.02 (.948)	-	-
USMil_normforeigmMil	-	0.28 (.207)	Mil finance	0.45 (.047)	0.55 (.019)	-	0.96 (.013)
milaidyesno	-	0.78 (.129)	Ally	-	0.92 (.040)	1.20 (.010)	-
milsalesyesno	-	0.25 (.404)	Military contact	-	-	-	0.37 (.001)
			Military contact less Ally	-	-	-	-
			Military finance	-	-	-2.10 (.244)	-2.06 (.257)
Basic Model Covariates							
soviet_foreign asst	-0.08 (.778)	0.22 (.437)		0.09 (.745)	0.19 (.507)	0.25 (.374)	0.25 (.366)
USeconaid_norm	1.97 (.079)	4.23 (.674)		9.82 (.274)	8.60 (.351)	7.16 (.474)	6.99 (.487)
newc	-0.73 (.006)	-0.66 (.029)		-0.68 (.022)	-0.61 (.048)	-0.66 (.017)	-0.64 (.037)
opentimeslntime	-0.00 (.636)	-0.00 (.748)		-0.00 (.701)	-0.00 (.798)	-0.00 (.709)	-0.00 (.735)
GDP_PPP_per_capita	-0.00 (.396)	-0.00 (.598)		-0.00 (.339)	-0.00 (.417)	-0.00 (.366)	-0.00 (.363)
Ethnic_gp	-0.21 (.623)	-0.34 (.425)		-0.24 (.565)	-0.38 (.375)	-0.28 (.514)	-0.30 (.500)
muslim_majority_yesno	-0.23 (.459)	-0.50 (.134)		-0.58 (.082)	-0.46 (.166)	-0.41 (.202)	-0.40 (.219)
christian_majority_yesno	0.09 (.739)	-0.33 (.266)		-0.15 (.589)	-0.24 (.397)	-0.36 (.226)	-0.37 (.222)
Global PH test	0.2374	0.8798		0.6371	0.5997	0.7815	0.8199
Likelihood ratio test	0.0001	0.0000		0.0000	0.0000	0.0000	0.0000

Numbers reported are: coefficient (P>|z|), except as noted for the global test of the proportional hazards assumption and the likelihood ratio test, both of which are reported as PR>chi2. All coefficient values have been rounded to the nearest hundredth. Models Comp D1 and Comp D2 contain the dichotomous composite covariates; models Comp C1 and Comp C2 contain the continuous composite covariates.

Mil contact = IMETyesno + USmilyesno + Ally
Mil contact less Ally = IMETyesno + USmilyesno
Mil finance = milaidyesno + milsalesyesno
Military contact = IMETyesno + USmil_norm_scaled + Ally
Military contact less Ally = IMETyesno + USmil_norm_scaled
Military finance = USmilasst_norm_scaled + USmilsales_norm_scaled

APPENDIX X
MIDDLE GROUND TO DEMOCRACY - COMPARISON OF COX MODEL RESULTS

Full Model Covariates	Basic Model	Full Model	Composite Covariates	Comp D1	Comp D2	Comp C1	Comp C2
IMETyesno	-	0.83 (.204)	Mil contact	0.80 (.039)	-	-	-
Ally	-	0.30 (.502)	Mil contact less Ally	-	0.97 (.019)	-	-
USmilyesno	-	1.43 (.005)	Mil finance	-0.32 (.282)	-0.38 (.217)	-	-
milaidyesno	-	-0.80 (.143)	Ally	-	0.55 (.211)	-	0.72 (.093)
milsalesyesno	-	0.05 (.890)	Military contact	-	-	0.59 (.017)	-
			Military contact less Ally	-	-	-	0.49 (.199)
			Military finance	-	-	-0.45 (.938)	-0.41 (.943)
Basic Model Covariates							
soviet_foreign_asst	0.47 (.239)	0.36 (.399)		0.51 (.220)	0.51 (.225)	0.64 (.150)	0.62 (.145)
USeconaid_norm	2.13 (.817)	5.86 (.535)		5.20 (.581)	5.16 (.586)	3.71 (.710)	3.94 (.691)
newc	-0.32 (.430)	0.27 (.569)		0.19 (.684)	0.15 (.753)	-0.08 (.859)	-0.04 (.933)
britcol_lntime	-0.66 (.058)	-0.81 (.028)		-0.72 (.043)	-0.76 (.035)	-0.66 (.064)	-0.64 (.073)
open_i	-0.01 (.113)	-0.01 (.111)		-0.01 (.150)	-0.01 (.142)	-0.01 (.145)	-0.01 (.149)
GDP_PPP_per_capita	0.00 (.039)	0.00 (.267)		0.00 (.065)	0.00 (.074)	0.00 (.033)	0.00 (.030)
Ethnic_gp	1.20 (.075)	0.76 (.283)		0.64 (.370)	0.71 (.321)	0.87 (.230)	0.82 (.267)
muslim_majority_yesno	0.20 (.679)	0.45 (.409)		0.52 (.335)	0.45 (.400)	0.36 (.482)	0.40 (.445)
christian_majority_yesno	0.53 (.231)	0.27 (.590)		0.21 (.666)	0.22 (.656)	0.38 (.416)	0.36 (.450)
Global PH test	0.8141	0.9930		0.9322	0.9692	0.9036	0.9300
Likelihood ratio test		0.0085		0.0030	0.0072	0.0474	0.1003

Numbers reported are: coefficient (P>|z|), except as noted for the global test of the proportional hazards assumption and the likelihood ratio test, both of which are reported as PR>chi2. All coefficient values have been rounded to the nearest hundredth. Models Comp D1 and Comp D2 contain the dichotomous composite covariates; models Comp C1 and Comp C2 contain the continuous composite covariates.
Mil contact = IMETyesno + USmilyesno + Ally
Mil contact less Ally = IMETyesno + USmilyesno
Mil finance = milaidyesno + milsalesyesno
Military contact = IMETyesno + USmil_norm_scaled + Ally
Military contact less Ally = IMETyesno + USmil_norm_scaled
Military finance = USmilasst_norm_scaled + USmilsales_norm_scaled

APPENDIX Y
MIDDLE GROUND TO AUTHORITARIAN - COMPARISON OF COX MODEL RESULTS

Full Model Covariates	Basic Model	Full Model	Composite Covariates	Comp D1	Comp D2	Comp C1	Comp C2
IMETyesno	-	-0.53 (.584)	Mil contact	0.34 (.293)	-	-	-
Ally	-	0.66 (.364)	Mil contact less Ally	-	0.07 (.865)	-	-
USmilyesno	-	0.71 (.18?)	Mil finance	0.05 (.890)	0.16 (.697)	-	-
milaidyesno	-	0.02 (.980)	Ally	-	-1.01 (.171)	-	-1.22 (.096)
milsalesyesno	-	0.72 (.154)	Military contact	-	-	0.32 (.317)	-
			Military contact less Ally	-	-	-	-0.05 (.906)
			Military finance	-	-	-11.00 (.382)	-11.30 (.405)
Basic Model Covariates							
soviet_foreign_asst	0.61 (.139)	0.59 (.172)		0.63 (.125)	0.62 (.149)	0.67 (.109)	0.60 (.132)
USeconaid_norm	-13.28 (.516)	-5.67 (.791)		-14.85 (.492)	-11.33 (.605)	-6.59 (.761)	1.45 (.948)
newc	-0.16 (.756)	0.81 (.209)		0.35 (.561)	0.52 (.419)	-0.11 (.849)	0.25 (.712)
britcol	0.84 (.046)	0.78 (.086)		0.72 (.101)	0.85 (.067)	0.94 (.042)	1.06 (.025)
open_i	-0.01 (.137)	-0.01 (.121)		-0.01 (.141)	-0.01 (.172)	-0.01 (.165)	-0.01 (.172)
GDP_PPP_per_capita	-0.00 (.093)	-0.00 (.046)		-0.00 (.061)	-0.00 (.074)	-0.00 (.114)	-0.00 (.150)
Ethnic_gp	1.14 (.147)	1.32 (.123)		1.16 (.161)	1.12 (.178)	1.12 (.154)	0.97 (.222)
muslim_majority_yesno	-0.42 (.387)	-0.56 (.265)		-0.47 (.344)	-0.48 (.337)	-0.32 (.501)	-0.28 (.559)
christian_majority_yesno	-0.01 (.976)	-0.14 (.640)		-0.04 (.869)	-0.14 (.630)	-0.07 (.782)	-0.22 (.459)
Global PH test	0.5920	0.6247		0.6911	0.5842	0.8283	0.8832
Likelihood ratio test		0.1361		0.2572	0.2912	0.2914	0.2216

Numbers reported are: coefficient (P>|z|), except as noted for the global test of the proportional hazards assumption and the likelihood ratio test, both of which are reported as PR>chi2. All coefficient values have been rounded to the nearest hundredth. Models Comp D1 and Comp D2 contain the dichotomous composite covariates; models Comp C1 and Comp C2 contain the continuous composite covariates.

Mil contact = IMETyesno + USmilyesno + Ally
Mil contact less Ally = IMETyesno + USmilyesno
Mil finance = milaidyesno + milsalesyesno
Military contact = IMETyesno + USmil_norm_scaled + Ally
Military contact less Ally = IMETyesno + USmil_norm_scaled
Military finance = USmilasst_norm_scaled + USmilsales_norm_scaled

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